

# ***SMALL CONTACT***

***Breaking social-emotional barriers for children  
with disabilities for inclusive outdoor play***



Master Thesis  
Design for Interaction  
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**Master thesis**

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**In collaboration with**

'Samen Spelen??'



# Preface

This graduation project, with 'Samen Spelen??' as the client, was the perfect opportunity for me to combine two topics that I like and find interesting: research and design for inclusivity and with children. After arranging the first meetings for my thesis, I realised that this topic had a lot to do with the work my mother used to do. She worked as a social worker in primary schools and with deaf children. This made working on this topic extra meaningful for me.

This project brings me to the end of my studies in Delft, where I learned a lot about myself, grew as a person, discovered new passions, and met many wonderful people. Thank you to everyone who has been a part of this journey, in both good and bad times.

During this graduation project, I was able to deepen my understanding of my areas of interest, my skills, and my growth points. Allowing me to come out of my shell as a designer with my own unique qualities.

I would like to thank all my supervisors for their support and positive energy throughout this project, for creating an atmosphere that made me feel comfortable sharing my work, for giving me the opportunity to learn and explore who I am as a designer.

I would like to thank Mathieu, my chair, for asking the right questions and supporting me in finding my own answers.

I would like to thank Susie, my mentor, for giving me the space to focus on my process and for providing me with tips on visual communication.

I would like to thank Rosa, my client mentor, for the brainstorming sessions, the opportunity to ask questions at any time, and for sharing our study stress.

I would also like to thank the entire 'Samen Spelen??' team for making me feel welcome and for providing feedback on my work.

Furthermore, I would like to express my gratitude for all the children, parents and experts involved in this graduation project - everyone who participated in play activities, helped with brainstorming and testing, and took part in various sessions and interviews.

Finally, I would like to thank my loved ones who have supported me throughout my graduation process. Thank you for being there whenever I needed you.

*Elke*



Figure 1. Photo collage of me involved in activities of this project (photos from Samen Spelen)



Figure 2. Photo play moment in 'Kloosterplantsoen' (photo from Samen Spelen)

# Abstract

This graduation project explores the social-emotional context of inclusive outdoor play. The objective is to enhance participation in outdoor play for children with disabilities by focusing on inclusion. To achieve inclusion in play, the needs of all users in an outdoor play area must be addressed. **This project examines themes and elements that facilitate small contact between children with and without disabilities, aiming to increase participation in outdoor play.**

## Context

There is a recognised need to promote outdoor play among children with disabilities, as it has a positive effect only impacts their physical, social, emotional, and cognitive development. However, children with disabilities engage in outdoor play less frequently than typically developing children, because of various barriers they experience.

## Collaboration with 'Samen Spelen??'

This project involves a close collaboration with the client 'Samen Spelen?'. The multiprofessional team from the consortium 'Samen Spelen??' at 'Hogeschool Utrecht' are developing two toolkits for child therapists to facilitate inclusive outdoor play for children with physical disabilities (4-12 years old) and their parents. One toolkit focuses on the physical context, the other on the social context.

## Research approach

To explore the social-emotional context, several research and design activities were conducted: starting with literature research and attending inclusive play activities. This was followed by participation in two generative sessions with children and an interview with an orthopedagogue to gain more insights into the emotional context.

## 3 found main themes

The findings from these activities led to three overarching main themes that have an influence on the social-emotional context of inclusive outdoor play. These themes formed the basis of three conclusion posters, which can be found on pages 57,59 & 61. The 3 themes and their related posters:

- Theme: **'The environment: people and place'**  
Poster: 'Influence of the environment and bystanders on outdoor play and making contact'
- Theme: **'Inclusive outdoor play activities'**  
Poster: 'Influence of the activity on participation and making contact'
- Theme: **'Children's inner world'**  
Poster: 'Connection & experiences of a child with a disability'

## Small contact & Design goal

The principle 'Small contact', identified on the third conclusion poster, was selected as the main focus of this project. Small contact refers to safe, accessible, and natural contact, without the need for full play. The facilitation of small contact creates openness to explore contact with others and children's own ways of participating.

To grasp the focus in one sentence, a design goal is created:

*My design goal is to facilitate/create small equal contact between children with disabilities and children without disabilities that do not know each other, at an outside play area in their neighbourhood, which positively influences the participation of children with a disability*

## Insights and conclusions

Based on this design goal, various brainstorming cycles were conducted, resulting in three concepts: 'Kijk Kameraden', 'Spelen met Schaduw' and 'Stoepkrijt Ontdekking'. 'Kijk Kameraden' focuses on making (eye) contact through the use of reflections and mirrors. With 'Spelen met Schaduw' children can play by creating shadows and reacting to the shadows created by others. 'Stoepkrijt Ontdekking' encourages children to leave traces in the neighbourhood that help them and others to get to know the area, play opportunities and each other.

Testing prototypes of these concepts with children in context provided insights into themes and elements that facilitate small contact between children. These themes are:

1. **Indirect intimate contact:** Indirect direct contact through objects by exploring one of the senses: seeing
2. **Indirect interplay:** Indirect play through objects that can be manipulated from a small distance
3. **Intermingled play:** Intermingled play among children using the same objects
4. **Leaving and following traces:** Indirect contact through traces that indicate the visibility of other children's play in the neighbourhood

These themes and their corresponding elements are presented in a poster, which can be found on the pages 124 & 125.

The results can be utilised by 'Samen Spelen??' to develop their toolkits. The use of these results can help encourage child therapists to stimulate children with physical disabilities to make small contact with new children, without the need for adult facilitation of play activities and making contact.

# Glossary

Important terms from this graduation report are explained here. Some are general explanations others relate to this specific graduation project. Sources are used to gain understanding of the terms in relation to this project.

## People

**Child:** The age frame that is given to the term 'children' differs. In this graduation project, focus is on children from the ages 4-12. Children with a developmental age (the age at which people emotionally, physically, cognitively and socially function and behave (Little warriors, n.d.)) of 4-12 are included in this age range. When discussing the development of children in this project, a broader range is taken.

**Child therapists:** Child therapist is an overarching term for therapists working with children. The client Samen Spelen is designing for child therapists and at the moment mostly focuses on paediatric physiotherapists and paediatric occupational therapists.

**Community sports coach:** Coaches who help residents in a neighbourhood find suitable sports and movement activities, and who organise sport and movement activities in the neighbourhood (Stichting Pulse, 2021).

**Orthopedagogue:** Educationalist that coaches children and youngsters who are hindered in their development, for example because of psychological problems or disabilities. In this report, the contact is with an orthopedagogue that works with children with disabilities at a special education (Mentaal Beter, 2010-2024).

**Paediatric physiotherapist:** Therapists that work together with children (0-18 years) who experience problems in their movements and movement development and their family (NVFK, 2024).

**Parents:** All caregivers of children are included when the term parents is used. These include parents, guardians or other professional caregivers who give care, support and assistance (NCcaregivers, 2021).

## Other terms

**Contact:** A form of communication and interaction between multiple people.

**Disabilities:** Are difficult to categorise, because they are debated and unstable. Within the social model, the explanation that takes most influencing factors into account, disabilities refers to deficiencies in society that hinders independence and equal rights for people with disabilities. People can experience disabilities formed by the social environment. (Marks, D., 1997; World Health Organization Geneva, 2002).

In this graduation project, focus is on permanent disabilities. When discussing the categorization of disabilities, multiple categorizations are explained. Outside this explanation, the term disabilities refers to permanent disabilities.

**Inclusion in play:** Inclusive play is directed to fulfilling the needs of all users in an outdoor play area.

**Participation:** Taking part or being involved in an activity, or in broader sense the society. (Cambridge University Press & Assessment, 2024).

**Play areas:** A place to play. Play areas can be playgrounds, but also areas outside where can be played that are not specified as playgrounds.

**Playing together:** Active participation of children in the same play, where contact between them is present.

**Small contact:** In this graduation project small contact is referred to accessible and safe contact that focuses on small natural ways for children to make contact and connect, without the need of it being full play.

**Social-emotional context of outdoor play:** The social and emotional circumstances that have an influence on participation of children (with disabilities) in outdoor play. The emotional part is concentrated on someone's internal emotions, the social part is concentrated on the relationship with the environment (Kijk op Ontwikkeling, 2014).



Figure 3: Photo inclusive play day, De Hoef (own photo made for 'De Lachende Zon')

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Figure 4. Photo inclusive play day 'De Hoef' (photo from 'InContact Bijzonder')

# INTRODUCTION

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## 1. Project introduction

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# INTRODUCTION

*This chapter starts with an introduction to this graduation project and its project approach. The project introduction includes the collaboration with the consortium 'Samen Spelen??' and the project goal of this graduation project in relation to the study of 'Samen Spelen??. The project approach demonstrates how the Double Diamond method is used as the basis of this project, the collaboration within this project and an introduction to the research and design methods.*



# 1. Project introduction

The project introduction focuses on explaining the goal, the main topics related to this goal and the collaborations of the client Samen Spelen. It continues by illustrating the goal of this graduation project, focussing on the social-emotional context, inclusion and participation.

## 1.1 Consortium 'Samen Spelen??'

This subchapter introduces the consortium 'Samen Spelen??' from Hogeschool Utrecht, the client for this graduation project, with whom I worked closely throughout the project. They focus on facilitating inclusive outdoor play. Their goal, main themes, and stakeholders are highlighted in this subchapter.

The graduation project is in collaboration with the consortium 'Samen Spelen??', a four-year research project from Hogeschool Utrecht with a multiprofessional research team. They are developing two toolkits for child therapists to facilitate inclusive outdoor play for children with physical disabilities (4-12 years old) and their parents through participatory design and research. One toolkit focuses on the physical context and one on the social context. This consortium was founded because children with physical disabilities do not often play outside, while it is proven that playing

outside with others has positive effects on their health and development. (Bloemen et al., 2021).

The main themes identified by 'Samen Spelen??' that influence inclusive outdoor play for children with physical disabilities are: the children, the parents, support from society, professionals and collaboration, the play area, making contact, playing together, and really getting to know each other. See Figure 5 for an overview of these central themes.



Figure 5. Overview of main themes identified by 'Samen Spelen??'

The research project collaborates with various stakeholders: including primary schools, municipalities, physiotherapists situated in Utrecht, Oosterhout and IJsselstein. Moreover organisations in the Netherlands, such as 'Jantje Beton' and 'Stichting het Gehandicapte Kind' as well as educational institutions like Delft University of Technology, are involved. An overview of all the stakeholders involved in the 'Samen Spelen??' research project can be found in Figure 6.

Note: From now on, 'Samen Spelen??' will be referred to as Samen Spelen.

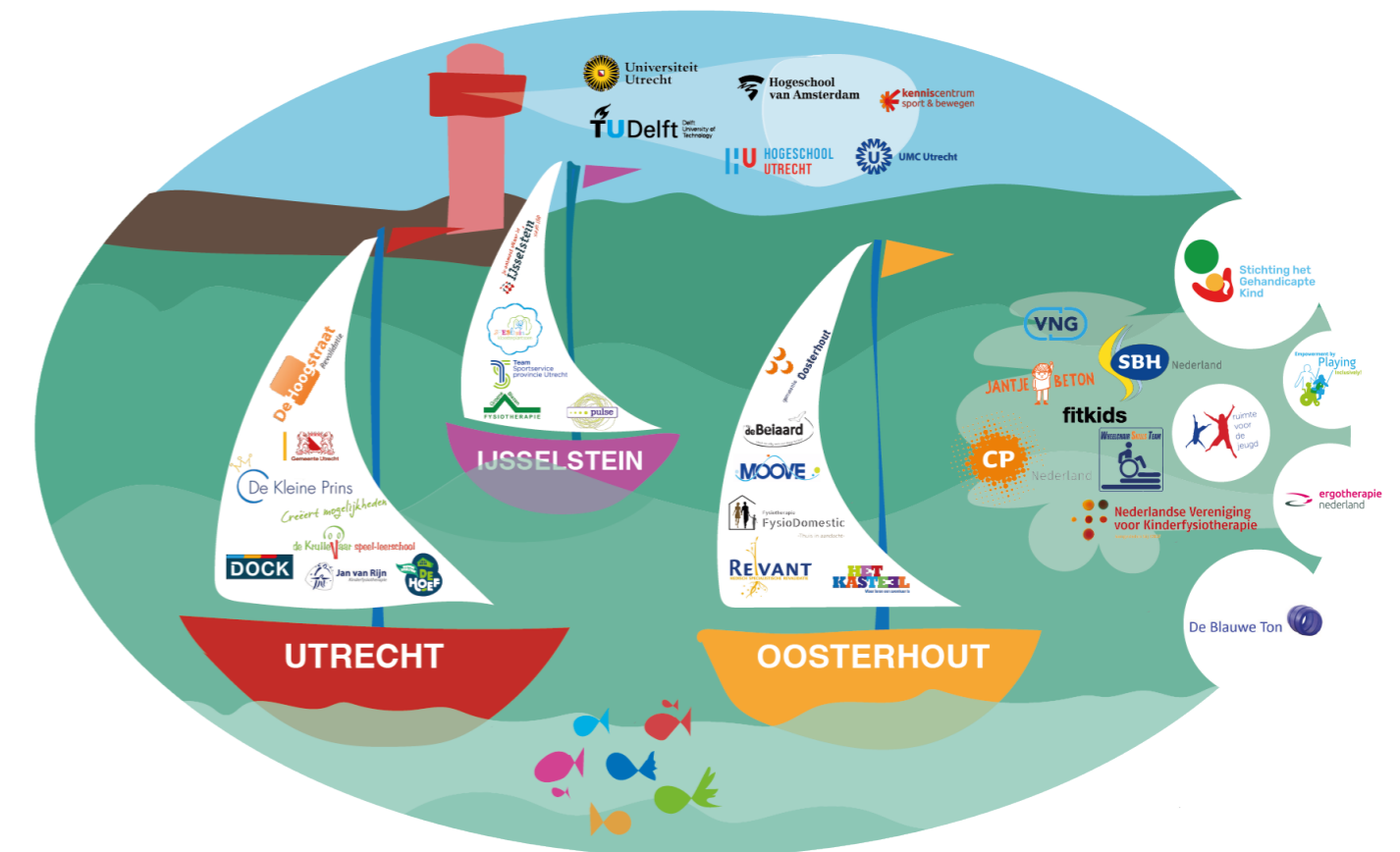


Figure 6. Stakeholder overview 'Samen Spelen??'

## 1.2 Project goal

This subchapter is a first introduction to why this project is relevant. The goal of this graduation project is to analyse and overcome social-emotional barriers that children with disabilities experience in outdoor play. Full inclusion in outdoor play activities is strived for.

### 1.2.1 Social-emotional context

Children with a disability experience barriers to participating in outdoor play with peers. These barriers can be divided into physical and social-emotional barriers. During this graduation project, focus is placed on the social-emotional context of inclusive outdoor play. The physical barrier, on which most studies are centred, is defined as the physical accessibility of play environments for children with physical disabilities. It has been found that overcoming the physical barrier on its own will not result in higher participation, as children still experience emotional barriers. (Engelen et al., 2021).

### 1.2.2 Inclusion and participation

To increase the participation of children with (physical) disabilities, inclusion in outdoor play must be stimulated. But when is a play area focused on inclusion?

Inclusive play is directed towards fulfilling the needs of all users in an outdoor play area, whereas exclusion is directed towards meeting the needs of only part of the users. In between these extremes, segregation and integration can be found. Segregation addresses all users' needs, but in different play areas. Integration addresses all users' needs in different spaces within one play area. In both segregation and integration users with different needs are still separated from each other (Lapsett, 2023). Figure 7 illustrates the differences between these various levels of inclusivity, based on the the illustration of Lapsett (2023).

### 1.2.3. Conclusion of project goal

To strive for full participation of children with physical disabilities in play areas, this project is aimed at inclusion, wherein children with and without a disability can play together.

Because overcoming the social-emotional barriers is necessary to facilitate higher participation and there is a lack of research on this barrier, it is important to focus on researching and designing for overcoming the social and emotional barrier. Researching this knowledge gap could enable the development of adequate solutions that could help children with physical disabilities play more outside together with peers.

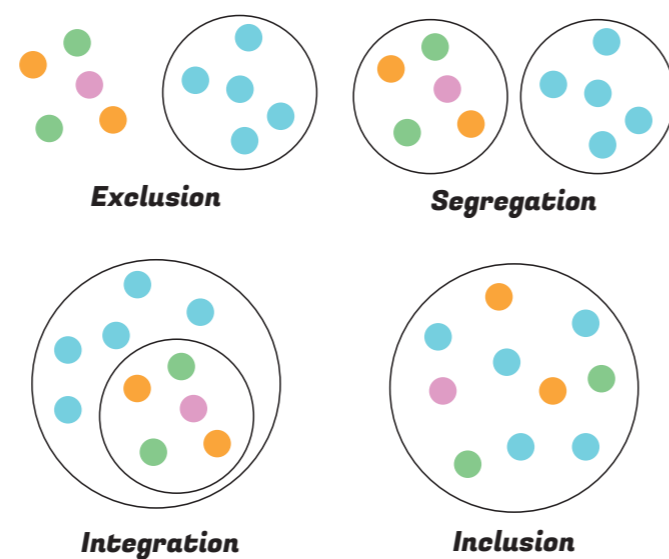


Figure 7. Differences between exclusion, segregation, integration and inclusion based on the illustration of Lapsett (2023)



Figure 8. Photo inclusive play day 'De Hoef' (own photo made for 'De Lachende Zon')

# 2. Project approach

*This chapter proposes the project approach that is taken in this graduation project. It introduces the 'Double Diamond' method, with the four phases of 'Discover', 'Define', 'Develop', and 'Deliver', that is used to approach this graduation project. The collaboration with Samen Spelen and other stakeholders throughout this project is described. It concludes with the research and design approach that gives an overview of the research questions and the research and design methods used.*

## 2.1 Double Diamond

*As the basis of the project approach, the Double Diamond method is used. The Double Diamond is a visual stepwise approach to design and innovation processes developed by the Design Council (Design Council, 2024). This subchapter will explain the use of this approach.*

This framework consists of two diamonds that first diverge and then converge. This results in four phases: 'Discover', 'Define', 'Develop' and 'Deliver'. These phases include discovering the challenge, defining the challenge and solution space, developing ideas, and finally delivering a certain outcome (Design Council, 2024).

This process is not entirely linear, as many iterative steps occur and research and design activities are intertwined. Entering a new divergent or convergent phase does not mean that this phase is fully finished and is never looked at.

In this graduation report, each of these phases concludes with the main takeaways from the phase. Depending on the content and findings, these sections are presented as conclusions or summaries.

Next, a description is provided of what is done in each phase of this graduation project. Followed by a visual overview of these phases with the main outcomes of this project, concluding the Discover phase and Deliver phase, see Figure 9 on the next pages.

### 2.1.1 Discover phase

During the first phase, the context with its users and interactions is explored through a variety of research methods. These include desk research, observations and conversations, interviewing and generative sessions with children. First, a literature review on the context and target group is conducted to better understand the project topic. Afterwards a deeper understanding of the influences on inclusive outdoor play within the social-emotional context is achieved through the use of multiple activities and methods. These include desk research, observations and conversations at play activities at playgrounds, interviewing experts, and a generative session with children organised by Samen Spelen. Using cluster analyses, overarching themes are identified. The Discover phase concludes with three posters that illustrate the main insights and their correlations, serving as a starting point for the Define phase.

### 2.1.2 Define phase

In the second phase of the Double Diamond method, the insights gained from the Discover phase are used to define the design challenge. Using the three concluding posters from the Discover phase, means, obstacles and ends are distinguished. These elements, along with a desired situation sketch, led to the Design vision. Within this design vision a project focus is established to scope down the project. A design goal and requirements & wishes are formed combining the themes of the project focus and serving as a guideline for the Develop phase. The Define phase concludes by zooming to show the bigger picture in which the project focus is situated.

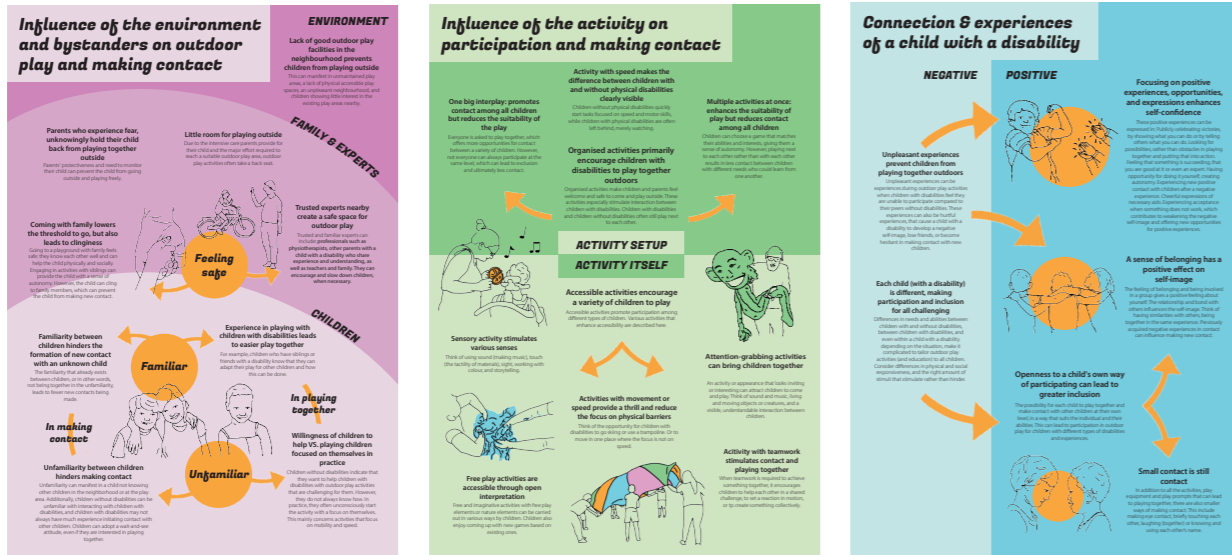
### 2.1.3 Develop phase

The identified main themes, design goal, and requirements & wishes, served as a foundation to start the ideation process. Various inspiration and ideas were generated through brainstorming, resulting in four idea directions. Within these directions, multiple ideas were developed, of which three were selected and turned into concepts. Feedback on these concepts were gathered by testing the created prototypes with children and evaluating them with experts. For each concept, the insights gained from testing and evaluation were analysed through clustering and using Parten's social play theory. This Develop phase is wrapped up with conclusions on the three concepts, highlighting elements that influence making contact, limitations of testing or the concept, and opportunities for further development.

### 2.1.4 Deliver phase

The final converging phase focused on reflecting and concluding on the entire graduation project. The outcomes of this project are combined into products to be handed over to the client. The main output is a concluding poster that presents the insights on creating small contact. This poster includes the themes and elements discovered in the analysis of the three concepts in the phase 'Develop'. Additionally, iterations on the concepts have been made based on insights from the previous phase. Furthermore an overview has been created regarding the future use of the different outcomes (themes, elements and prototypes) for the client and their stakeholders.

## Main outcome of Discover phase



## Main outcome of Deliver phase

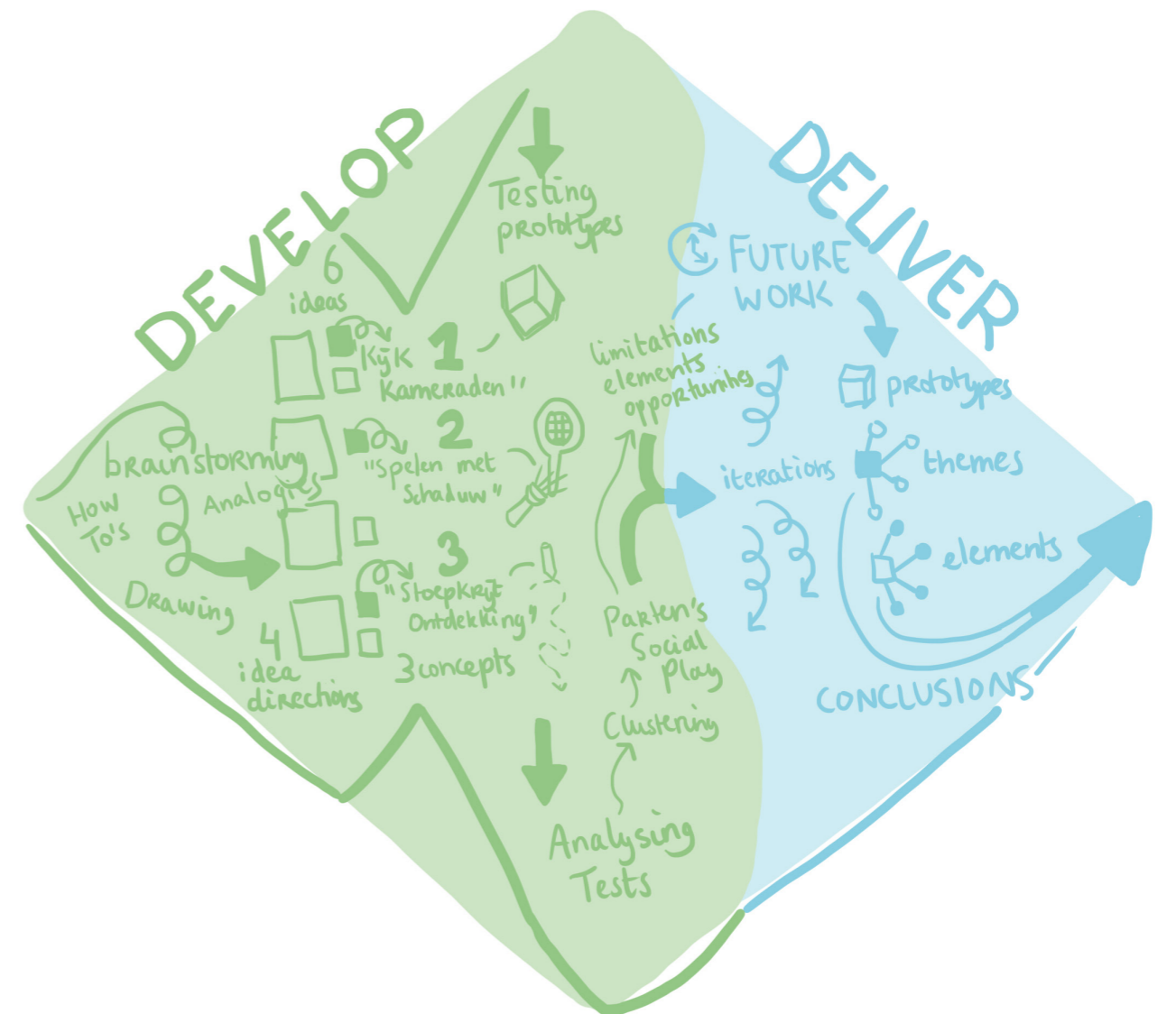
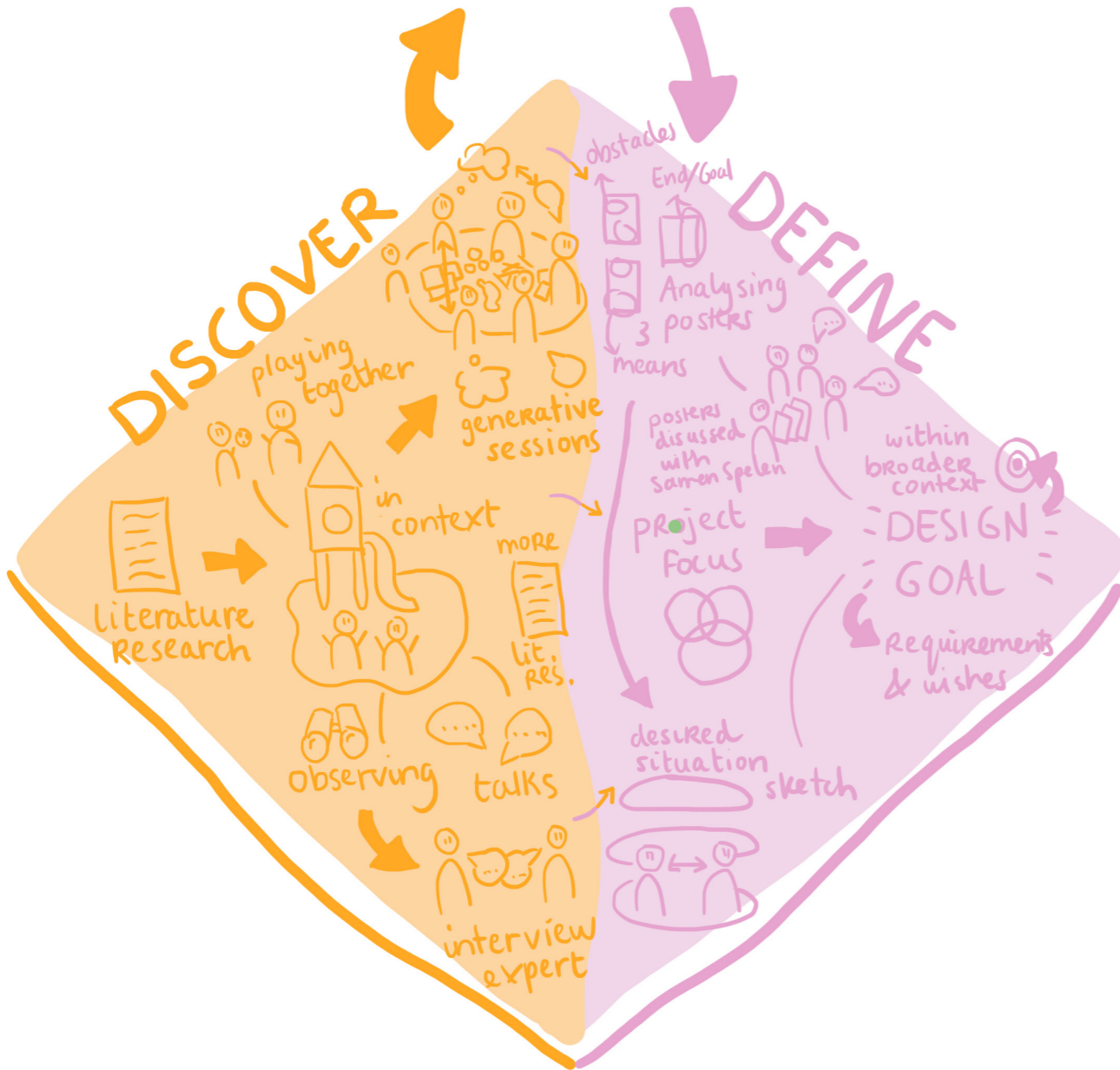
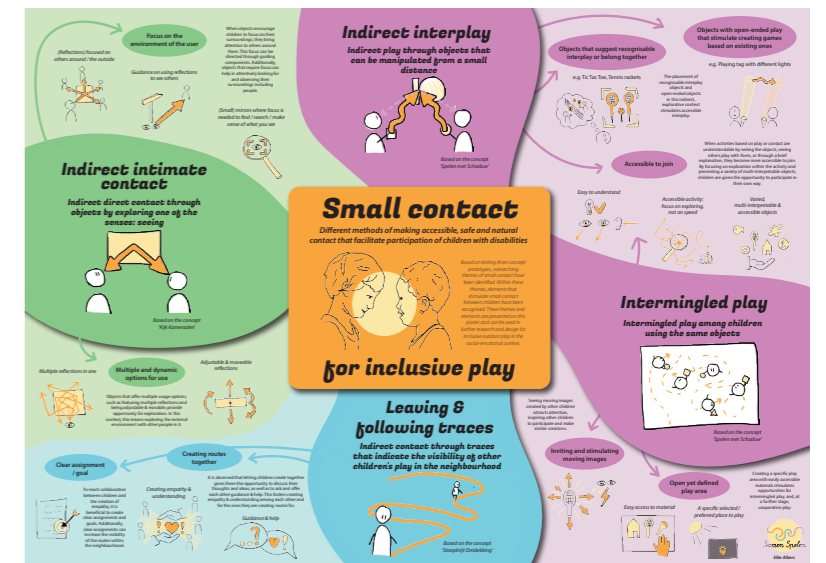


Figure 9. Double Diamond method in this graduation project with main boundary objects

## 2.2 Collaboration

In this subchapter, the collaboration with various stakeholders within this graduation project will be discussed. Some of them are highlighted due to their importance.

### 2.2.1 Client

During this graduation project, active participation took place in the multiprofessional research team of Samen Spelen. In addition to organising my own research and design activities, a variety of activities organised by Samen Spelen and its partners were attended. In activities organised by the consortium and stakeholders, I have taken on several roles as: participant, as observer and notetaker, and as a group supervisor and facilitator. Meetings within the team were regularly attended. This collaboration resulted in sharing ideas and perspectives with each other throughout the project.

The vision that 'everything is data' was realised through interactions and exchange of data, interim results and conversations among myself as a graduation student, the Samen Spelen team, experts and stakeholders, as well as other students from Hogeschool Utrecht.

### 2.2.2 Involved stakeholders

The consortium has numerous stakeholders and partners, as illustrated in Figure 6 in Chapter 1.1. In Figure 10, stakeholders involved in research activities, presentations and play moments during this graduation project are displayed. Most involved stakeholders are partners from Samen Spelen, some not. A few of these stakeholders will be highlighted here due to their significance throughout the project.

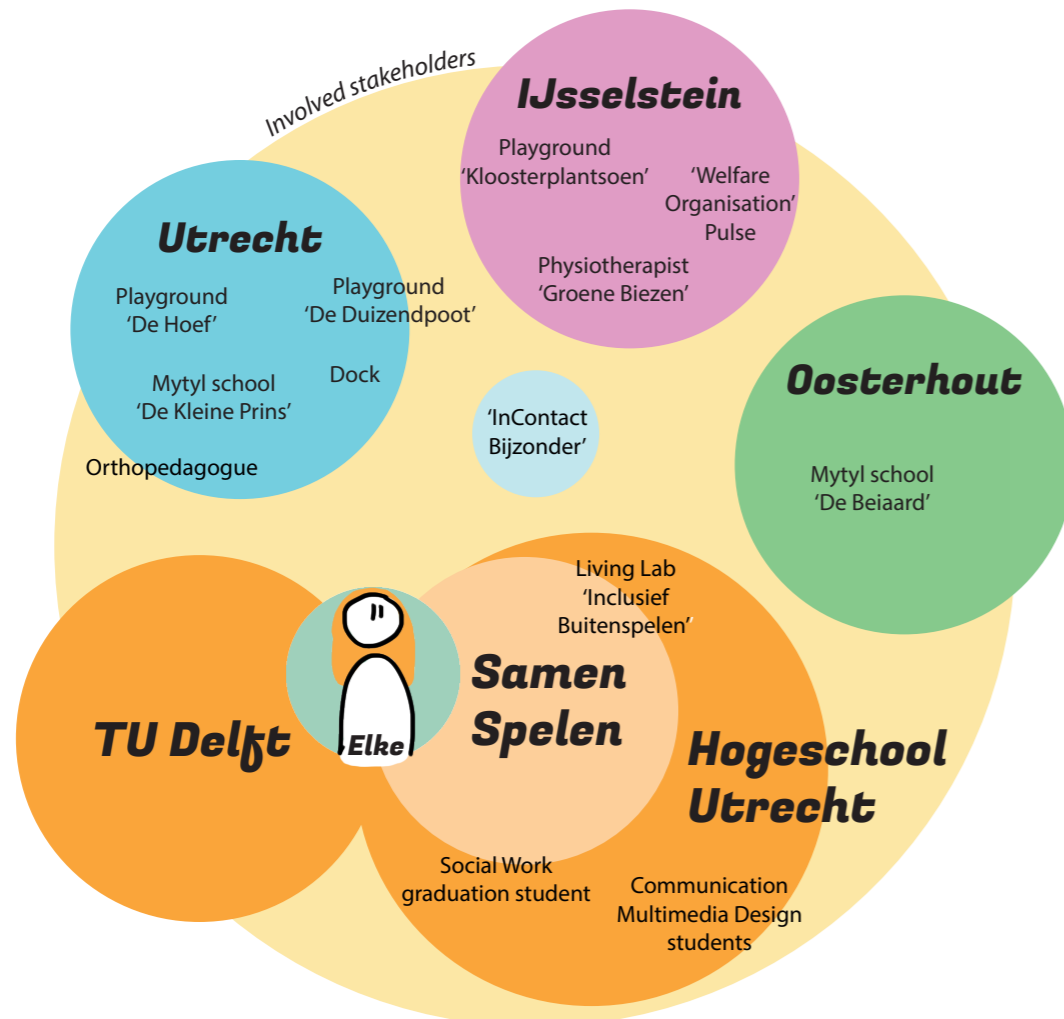


Figure 10. Overview of involved client and stakeholders in this graduation project

### The Living Lab 'Inclusief Buitenspelen'

The Living Lab 'Inclusief Buitenspelen' from Hogeschool Utrecht overlaps with the consortium Samen Spelen, sharing multiple of the same researchers and designers. They focus on interprofessional collaboration to promote outdoor play for children who don't engage in much play or physical activity. During the time span of this graduation project, this Living Lab organised play moments for children at the playground 'Kloosterplantsoen' in IJsselstein. This is in collaboration with paediatric physiotherapists from 'Groene Biezen Fysiotherapie' and community sports coaches from 'Pulse'. In this project, play moments at 'Kloosterplantsoen' are attended for observations and talks with children, experts and parents.

### 'InContact Bijzonder'

With 'InContact Bijzonder', which is not a stakeholder of the consortium, contact has been established. Their mission is to foster understanding, create connections and build bridges between parents with care-intensive children and the healthcare sector, thereby promoting an inclusive society for children with disabilities (InContact Bijzonder, n.d.). In pursuit of their mission, they organise inclusive play days at playgrounds. I attended some of these play days to explore the context through observations and conversations, and to test prototypes during the Develop phase.

### Generative sessions at mytylschools

During the Discover phase, I participated as supervisor and facilitator in two generative sessions with children at schools organised by Samen Spelen. The groups during these sessions included children from Mytylschools as well as children from regular education. One session took place at the Mytylschool in Utrecht, the other was held at the Mytylschool in Oosterhout.

### Dock

Moreover, Dock is mentioned, which stimulates contact within neighbourhoods between residents and organisations, to create a society with cohesion between people (Stichting Dock, 2024). Dock is located in different cities across the Netherlands, including Utrecht, where it, among other things, manages playgrounds. Through Dock, testing at the playground 'De Duizendpoot' in Utrecht was made possible.

### Orthopedagogue

Lastly, orthopedagogue Nandine Henry is mentioned. She is an orthopedagogue generalist who works at 'De Hoogstraat' and is involved in the research project of 'Samen Spelen?'. Contact with her was established at one of the generative sessions with children. Later on, an interview and a feedback moment with her are conducted.

## 2.3 Research and design approach

This subchapter introduces the research and design approach of this graduation project, by providing an overview of the most research questions and most important research and design methods.

In the previous subchapter, 2.2 Collaboration, an overview of stakeholders involved in this graduation project is shown. This overview is important for understanding of the research and design activities throughout the project. In this graduation project, multiple methods are used for research and design. To introduce the research and design approach, the research questions and the most important research and design methods are presented in Table 1. Each phase will elaborate on the activities, including the corresponding research and design methods. An overview of these activities can be found at the beginning of each phase. This overview describes the activity, date & place, methods used, and extra information about the participants, supporting materials and data collection. The activities vary in terms of organiser and my role.

Besides the activities listed throughout the report, other activities organised by Samen Spelen and presentations by students have been attended. In these activities, I did not have a role as researcher or designer. I was a participant, listener or helper. No direct references to these activities are made in this graduation report. However, they influenced my work by providing inspiration, hands on experience, knowledge, and confirmation of earlier discoveries. A list of these activities can be found in Appendix 2.

PHASE	CHAPTER	RESEARCH QUESTIONS	RESEARCH AND DESIGN METHODS
Discover	3.1 Importance of outdoor play	<ul style="list-style-type: none"> <li>- Why is (outdoor) play important for children with and without disabilities?</li> <li>- Why is it important to research and design for inclusive outdoor play for children with disabilities?</li> </ul>	- Desk research
	3.2 Experienced social-emotional barriers & facilitators	- What are the social and emotional barriers and its already found building blocks experienced by children with a disability in outdoor play with peers?	- Desk research
	4.1 Types of disabilities	- What are disabilities? How are disabilities categorised?	- Desk research
	4.2 Development & play changes of children	<ul style="list-style-type: none"> <li>- How do children develop with focus on social-emotional and physical development?</li> <li>- How are development and play related?</li> <li>- What social aspects are there in the development of play?</li> </ul>	- Desk research
	5.2 The environment: people and place	<ul style="list-style-type: none"> <li>- What factors in the environment prevent children with a disability from making and having contact with other children (leading to outside play together)?</li> <li>- What factors in the environment stimulate children with a disability to make and have contact with other children (leading to outside play together)?</li> </ul>	<ul style="list-style-type: none"> <li>- Desk research</li> <li>- Observations &amp; talks with children and parents at inclusive play activities</li> <li>- Generative session with children organised by Samen Spelen</li> </ul>

	5.3 Inclusive outdoor play activities	<ul style="list-style-type: none"> <li>- What kind of activities are interesting and accessible for children with a disability?</li> <li>- What activities stimulate children with a disability to make and have contact with other children (leading to outside play together)?</li> </ul>	<ul style="list-style-type: none"> <li>- Desk research</li> <li>- Observations &amp; talks with children and parents at inclusive play activities</li> <li>- Generative sessions with children organised by Samen Spelen</li> </ul>
	5.4 Children's inner world	<ul style="list-style-type: none"> <li>- What internal thoughts and emotions prevent children with a disability from making and having contact with other children (to play together outside)?</li> <li>- What internal thoughts and emotions stimulate children with a disability to make and have contact with other children (to play together outside)?</li> </ul>	<ul style="list-style-type: none"> <li>- Desk research</li> <li>- Observations &amp; talks with children and parents at inclusive play activities</li> <li>- Generative session with children organised by Samen Spelen</li> <li>- Unstructured interview with orthopedagogue</li> </ul>
Develop	9. Ideation & Conceptualization	<ul style="list-style-type: none"> <li>Brainstorm / Creating ideas</li> <li>- What ideas stimulate (small) contact between children?</li> <li>- What ideas arise from elements from inclusive outdoor play activities?</li> <li>- What ideas are suitable for children that feel limited in participating in outdoor play by speed limit? What ideas are easy and understandable in use?</li> <li>Comparing / Evaluating ideas</li> <li>- What different types of (small) contact could be used in play?</li> <li>- How do these types of (small) contact differ from each other?</li> </ul>	<ul style="list-style-type: none"> <li>- Sprint days by Samen Spelen</li> <li>- Brainstorming, with use of How-Tos, analogies &amp; metaphors, brainstorming &amp; brainwriting, braindrawing</li> <li>- PMI method</li> <li>- Feedback from orthopedagogue</li> </ul>
	10. User test & Evaluation	<ul style="list-style-type: none"> <li>- What do children instinctively do with the prototypes when presenting?</li> <li>- What kind of contact between children occurs when using the prototype?</li> <li>- How do children come in contact with the prototype?</li> <li>- Between whom does contact arise when using the prototype?</li> <li>- Is there a difference in usage between different prototypes within the same concept?</li> <li>- Where is the prototype used?</li> </ul>	<ul style="list-style-type: none"> <li>- Observations of children playing with the prototypes at different locations</li> <li>- Feedback from Samen Spelen</li> </ul>

Table 1. Overview research questions and the most important research and design methods per chapter

# MAIN TAKEAWAYS

## CH.1

- This graduation is in collaboration with the client 'Samen Spelen?'. They are developing two toolkits for child therapists to facilitate inclusive outdoor play for children with physical disabilities (4-12 years old) and their parents through participatory design and research.
- The aim of this graduation project is to stimulate inclusion in outdoor play and increase participation of children with disabilities.

## CH.2

- The 'Double Diamond' method with the four phases 'Discover', 'Define', 'Develop' and 'Deliver' is used to approach this graduation project.
- Various stakeholders are involved in this graduation project.
- Various research and design methods are used to gain insights throughout this graduation project.



Figure 11. Photo inclusive play day 'De Hoef' (own photo made for 'De Lachende Zon')

**DISCOVER**



# CONTENT

## **3. Context**

- 3.1 Importance of outdoor play
- 3.2 Experienced social-emotional barriers & facilitators

## **4. Target group**

- 4.1 Types of disabilities
- 4.2 Development & play changes of children

## **5. Deep dive into the social-emotional context**

- 5.1 Explanation of methods and process
- 5.2 The environment: people and place
- 5.3 Inclusive outdoor play activities
- 5.4 Children's inner world

## **6. Posters concluding the 'Deliver' phase**

- 6.1 Poster 1: Influence of the environment and bystanders on outdoor play and making contact
- 6.2 Poster 2: Influence of the activity on participation and making contact
- 6.3 Poster 3: Connection & experiences of a child with a disability

# INTRODUCTION

*The Discover phase focuses on discovering the challenge.*

*This phase started with a literature review on the context and target group, to create a better understanding.*

*This research centres on outdoor play and the identified social-emotional barriers associated with it. Regarding the target group, research is conducted on the explanation and categorisation of disabilities. Furthermore, changes in development and play are studied with a primary focus on social-emotional aspects.*

*After this first exploration, a deep dive into the context is undertaken using a mixed method approach. This deep dive explores the environment of children in outdoor play, inclusive outdoor play activities, and the inner world of children with disabilities in relation to playing outdoors together.*

*This phase concludes with three posters, summarising the findings from this stage.*

*The insights gained in this phase are used in the Define phase to create the situation sketch and design vision.*

# RESEARCH AND DESIGN ACTIVITIES

ACTIVITY	PLACE/DATE	GOAL	METHODS	EXTRA INFORMATION
Desk research	Online  During the whole project	Diving into the topic of social-emotional barriers & context and target group. Additional supporting information.	/	Sources: Papers, websites, articles, documents from Samen Spelen.
Inclusive play day organised by 'InContact Bijzonder'  Visited together with Rosa from 'Samen Spelen' and Social Work student graduating at 'Samen Spelen'	Playground 'de Hoef' in Utrecht  01/05/2024	Immersing myself into the play world of children with and without a disability.	- Observation of and playing with children. Conversations with parents of children with a disability. - Conversation with founder of InContact Bijzonder and mother of child with a disability. - Attend the experience theatre piece 'Amigos' by De Lachende Zon and a reading moment of 'Marley Praat Passie'.	<b>Type and amount of participants:</b> Children differing in disabilities: for example children with multiple disabilities (can't for example verbally speak or are in an electric wheelchair), children that have a physical disability (are for example in a wheelchair or have splints on the legs for support), a child with down syndrome. And children without disabilities. Parents were present too. Observation was done at a full playground during the whole day. Interacting and playing with children (around 5/10). Conversation with parents (n=3). <b>Supporting materials:</b> Inclusive play activities that were present. <b>Data collection:</b> Written notes, taken photos.
Play moment organised by Living Lab with paediatric physiotherapist and community sports coach	Playground 'Kloosterplantsoen' in IJsselstein  06/05/2024		- Observation of and playing with children. - Conversation with parent (n=1) of child with chronic health issues and paediatric physiotherapist.	<b>Type and amount of participants:</b> Mostly children who visit the paediatric physiotherapist, who are motivated here to move and play more outside. For example children that have overweight, children with physical disabilities that wear splints for supporting the legs, children with unstable health conditions, children with down syndrome. Some siblings or other children joined in play. <i>Play moment 1:</i> Around 10/15 children. <i>Play moment 2:</i> A child with walking assistance and that couldn't fully verbally communicate was also present at the playground. Around 10 children. <b>Supporting materials:</b> Play materials present at playground. <b>Data collection:</b> Written notes, taken photos.
Play moment organised by Living Lab with paediatric physiotherapist and community sports coach	Playground 'Kloosterplantsoen' in IJsselstein  13/05/2024			
Generative session with children organised by Samen Spelen team	Mytylschool Oosterhout De Beiaard  24/05/2024	Discovering social and emotional barriers children with disabilities experience in play.	Supervisor together with others of group of children from mytylschool and regular school (n=6), later on supervisor of duo (n=2).	<b>Type and amount of participants:</b> Mixed groups of children from special education and regular education. <i>Generative session 1:</i> One full class. <i>Generative session 2:</i> Two full classes. <b>Supporting materials:</b> Prepared materials by Samen Spelen and materials to craft. For some groups: audio and video recording. <b>Data collection:</b> Filled in and created materials by children. Written notes. For some groups: audio and video recording. For my project: written down important insights.
Generative session with children organised by Samen Spelen team	Mytylschool Utrecht De Kleine Prins  27/05/2024		- Supervisor of group of children from mytylschool and regular school (n=4) - Listened to recorded audio from other group (n=4).	
Unstructured interview with orthopedagogue Nandine Henry	Online call  05/06/2024	Diving deeper into the emotions and self-esteem regarding emotional factors.	Unstructured interview about self-esteem and self-image of children with a disability.	<b>Type and amount of participants:</b> 1 orthopedagogue. <b>Materials:</b> List of topics wanting to discuss. <b>Data collection:</b> Written notes and recorded interview.
Analysis session of the generative sessions	Hogeschool Utrecht  06/06/2024	Gaining insights on the social and emotional barriers from the generative sessions.	On the wall clustering of statement cards created individually by present participants.	<b>Type and amount of participants:</b> Samen Spelen team and Mathieu Gielen. <b>Supporting materials:</b> Materials created during the generative sessions, initial insights from during the generative sessions. <b>Data collection:</b> In general: recorded pitch, post-its. For my project: written down important insights.

Table 2. Overview most important research and design activities in the Discover phase

# 3. Context

This chapter discusses the relevance of researching and designing for enhancing play and outdoor play among children with disabilities. Through literature review the research questions in this chapter are addressed.

This chapter starts with describing the importance of play, specifically outdoor play, for children highlighting the various developmental advantages of engaging in play.

Later in the chapter, the identified experienced social-emotional barriers & facilitators for inclusive outdoor play from literature are discussed. This serves as a starting point for deeper exploration in context. This in-depth exploration can be found in Chapter 5.

## 3.1 Importance of outdoor play

This subchapter will explain the importance of engaging in outdoor play on different levels and highlighting the importance of this project.

### Research questions:

Why is (outdoor) play important for children with and without disabilities?

Why is it important to research and design for inclusive outdoor play for children with disabilities?

The average time children play outside is decreasing. Research shows that the outdoor playtime of Dutch children continues to decline: in 2024 children reported spending an average of 7.2 hours a week playing outside, compared to 9.9 hours a week in 2022. While half of the children who participated in this research mentioned they would like to play outside more often than they currently do (Jantje Beton, 2024). Time and space for engaging in play is becoming more limited and constrained (Samenspeelnetwerk, n.d.).

This decline is concerning, as playing is essential for a healthy development of children in multiple ways. It contributes not only to physical, but also to social, emotional, cognitive and psychomotor development (Nijhof, et al., 2018; Bento G., 2017). Playing gives children the opportunity to discover the world and themselves. Through play, they can process experiences, understand how to interact with peers, test their limits and develop their skills (Samenspeelnetwerk, n.d., Bento G., 2017). Play provides an environment for exploring social interactions and communication. Additionally, creativity and problem-solving abilities can be stimulated through play (Nijhof, et al.). The environment in outdoor play offers children even more opportunities for socialisation and connection with nature. Furthermore, spending time outside promotes a more physically active lifestyle and behaviour in children. Prioritising unstructured outdoor play and spending time outdoors in

organised contexts, such as schools where children spend a significant amount of their time, can contribute to this active behaviour (Grey et al., 2015). Moreover, unstructured play with outdoor materials fosters positive self-esteem, autonomy, and confidence (Bento G., 2017)..

Especially for young people with chronic health issues, play can enhance their well-being and quality of life both in the short term and, most importantly, in the long term (Nijhof, et al., 2018). For children with disabilities, the opportunity to develop through play, which helps building confidence and friendships in the neighbourhood, is particularly valuable. Playing together from a young age can help foster an inclusive society by reinforcing the idea that everyone is welcome to play along. More recognition and action need to be undertaken to secure their right to participate in play (Samenspeelnetwerk, n.d.).

## Conclusion

Outdoor play, and play in general, is crucial for the development of children on multiple levels. It contributes to physical, social, emotional and cognitive development. However, the number of hours spent playing outside each week has decreased in recent years. On top of that, children with disabilities play less outside than typically developing children. All together, this emphasises the importance of researching and designing to enhance outdoor play among children with disabilities.

## 3.2 Experienced social-emotional barriers & facilitators

This subchapter introduces the social and emotional barriers identified in literature.

### Research question:

What are the social and emotional barriers and its already found building blocks experienced by children with a disability in outdoor play with peers?

Social and emotional development are interwoven, yet there is a difference in nuance between them: emotional development is concentrated on the child's internal emotions, and social development is centred on the relationship with their environment (Kijk op Ontwikkeling, 2014). Both the child's internal emotions and the relationship with their environment have influence on having and making friends, which professionals consider an important element in stimulating more outdoor play. This is negatively affected by the fact that children with physical disabilities often can't keep up with the movements of typically developing peers (Engelen et al., 2021).

In a recent study, Engelen et al. (2021) researched the social and emotional barriers. Regarding the social aspect, children with disabilities usually attend schools with special education, located outside their neighbourhoods. This results in not knowing children in their neighbourhood. In the light of the emotional context, it is stated that "the lack of self-esteem, autonomy and self-solving abilities are the building blocks of the emotional barrier" (p.6). Moreover Bolster et al. (2021) found that stimulating self-efficacy and autonomy, and focusing on possibilities can help in facilitating physical activity for children with physical disabilities. Although these found factors relate to physical activity as a whole, rather than specifically to social and emotional barriers, they relate to the above mentioned building blocks of the emotional barriers. This indicates that the social and emotional barriers in outdoor play do not exist on their own. Instead they are closely related with factors influencing physical activity in outdoor play.

## Conclusion

In the next steps of this project, the social and emotional context and barriers will be further explored. On the social level, the contact between children with disabilities and peers, as well as other people in their environment, will be further researched. The upcoming research and design activities regarding the emotional context will concentrate on self-esteem and self-efficacy, taking into account autonomy and focusing on possibilities.

As noted, the social and emotional contexts with their barriers and facilitators are interwoven and influence each other. Not to mention the influence of the physical context.

# 4. Target group

This chapter explores the target group of children with disabilities. It is divided into two subchapters: one focuses on explaining disabilities, the other on the development of children. Through literature studies, the research questions in this chapter are addressed.

The first subchapter discusses the categorisation of disabilities, with a key emphasis on the biopsychosocial model, which aims to capture the complexity of defining disabilities.

The chapter continues by examining children's development and corresponding changes in play. The main focus is on social-emotional development and play, including Parten's social play theory.

Based on the findings in this chapter, decisions regarding the target group are made for the design goal.

## 4.1 Types of disabilities

This subchapter argues and debates the categorisation of disabilities by introducing various models and methods of categorisation. The biopsychosocial model is used to describe the complexity of defining disabilities. Moreover focus is placed on permanent disabilities.

### Research questions:

What are disabilities? How are disabilities categorised?

### 4.1.1 Biopsychosocial model

As abilities and disabilities are often debated and can be unstable, it is difficult to create a clear categorisation of disabilities (Marks, D., 1997). Medical models that look at abilities and disabilities as more stable and uncomplicated concepts focus on disability as a feature of the individual, seeking ways to treat or prevent the disability. In contrast, the social model centres on the deficiencies in society that hinder independence and equal rights for people with disabilities. This perspective moves away from the idea that disability is an individual attribute, and instead perceives it as shaped by the social environment. (Marks, D., 1997; World Health Organization Geneva, 2002).

The World Health Organization argues that both models are not sufficient on their own to capture this complexity. According to them, disabilities consist of the interaction of the person with their features and the environment, where one aspect can be more prominent than the other depending on different situations. As Microsoft explains in their Inclusive Guidebook: disability is not solely one's personal health condition, it is a mismatched human interaction (Microsoft, 2016). This perspective led to a new model of explaining disability, known as the biopsychosocial model. This model integrates the essential aspects of both the medical and social model by incorporating biological, individual and social aspects. For this model, see Figure 12 & 13 (World Health Organization Geneva, 2002).

### 4.1.2. Other methods of categorising disabilities

Other ways of differentiating types of disabilities include examining the timeframe in which the disability and exclusion occurs: these can be permanent, temporary or situational. Abilities can change temporarily, for example, due to an injury or because of being in a different context for a certain amount of time. Think, for instance, of having a broken leg, where the ability to walk is affected. Additionally, situations can change the ability of a person. For example, being in a very loud environment can change a person's ability to hear (Microsoft, 2016). Disabilities can be visible or invisible to the outside world. Some disabilities are immediately noticeable, while others may not be evident right away. For instance, autism, but also hearing impairments are examples of invisible disabilities. These invisible disabilities are not always understood by others, as there may be no visible signs indicating a person has a disability (Scope, n.d.).

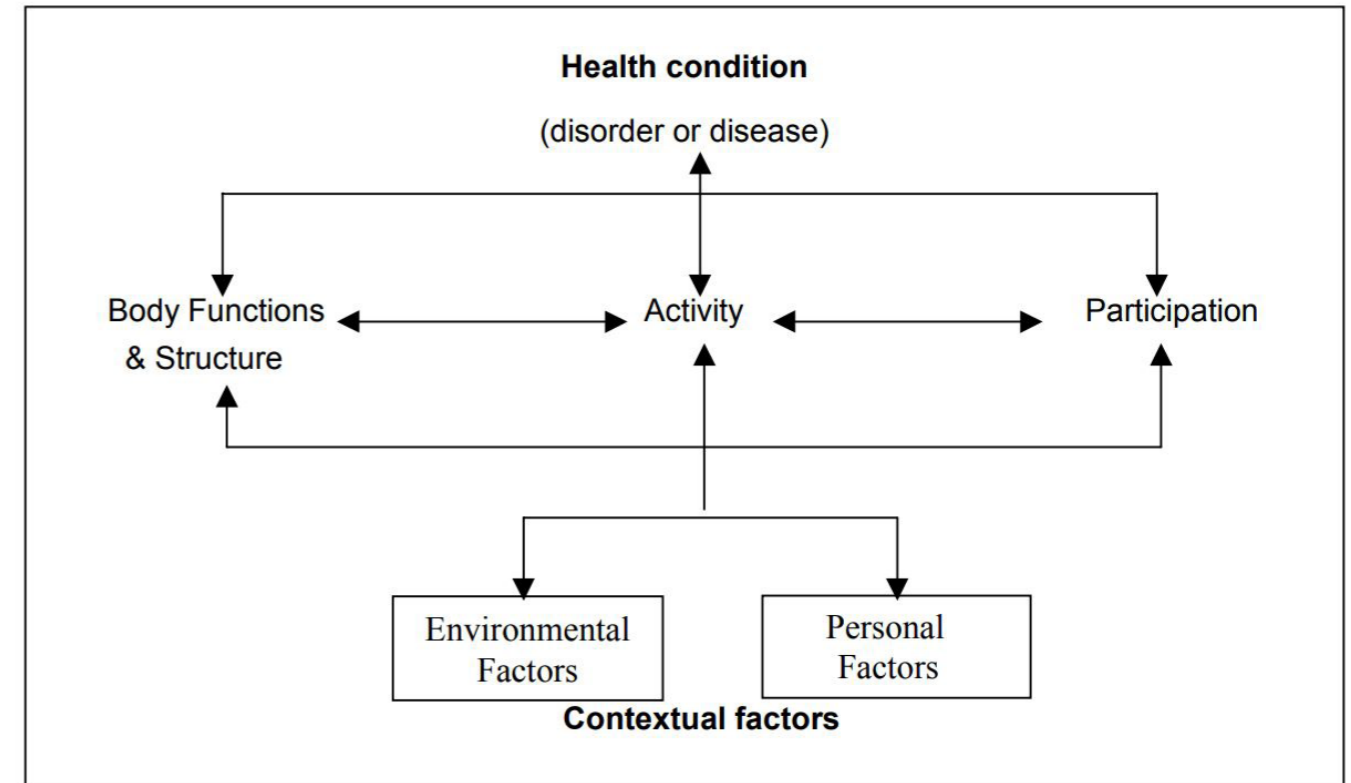


Figure 12. Biopsychosocial model (World Health Organization Geneva, 2002).

- Body Functions** are physiological functions of body systems (including psychological functions).
- Body Structures** are anatomical parts of the body such as organs, limbs and their components.
- Impairments** are problems in body function or structure such as a significant deviation or loss.
- Activity** is the execution of a task or action by an individual.
- Participation** is involvement in a life situation.
- Activity Limitations** are difficulties an individual may have in executing activities.
- Participation Restrictions** are problems an individual may experience in involvement in life situations.
- Environmental Factors** make up the physical, social and attitudinal environment in which people live and conduct their lives..

Figure 13. Explanations of terms of the Biopsychosocial model (World Health Organization Geneva, 2002).

### 4.1.3 Conclusion

Categorising and specifying disabilities is difficult. Every child with a disability is unique and experiences the disability differently, depending on their interaction with environmental features. This perspective is supported by the biopsychosocial model, which illustrates that biological, individual and social aspects have an influence on disabilities. For this reason, this graduation project is not centred on a specific disability. What is specified, however, is that the project is focussed on children with a permanent disability, as their experience of exclusion in society tend to be more deeply rooted. Furthermore, this project specifically concentrates on children with disabilities who struggle to keep up with typically developing peers in outdoor play activities.

## 4.2 Development & play changes of children

This chapter discusses the development and related play changes of children. As mentioned in the previous chapter, development in various domains can be stimulated through engagement in outdoor play. It dives into social-emotional development and physical and motor development. In addition it addresses social play, by introducing Parten's theory.

### Research questions:

- How do children develop with focus on social-emotional and physical development?
- How are development and play related?
- What social aspects are there in the development of play?

Acts of play begin in the early stages of children's development and are regarded as crucial not only for physical and motor development, but also for social, emotional and cognitive growth, as explained earlier in Chapter 3.1 (Nijhof et al., 2018). In Figure 14, the timeline of the development and changes in play is depicted. It illustrates the types of play that are related to, and of importance for, various developmental stages throughout childhood. At the bottom of the figure, the types of play children generally engage in at certain ages are presented. At the top, the developmental domains that relate to the types of play at the bottom are depicted.

It is important to mention that this timeline model of development is not fixed and can vary among children. Additionally, the classifications of play do not exclude one another and can be intertwined. Below, the physical and motor development, and the social-emotional development including social play are highlighted. Of these, social-emotional is most important, as it is the focus of the project goal.

### 4.2.1 Social-emotional development

As research shows, play enhances learning across various fields, with social-emotional learning being one of the most impactful for children's long term growth, development and accomplishments. Social-emotional learning covers the knowledge and abilities that enables individuals, including children, to identify and regulate their emotions, cultivate and sustain relationships and make informed decisions. (Ljubetic, Malica & Vukadin, 2020).

Considering the social-emotional development of children, friendship formation begins around the age of 5 and remains an important factor until the age of 12. This social-emotional development in friendship formation runs parallel to the development of exploration of desires & emotions and competence. It usually occurs after the earlier stage focused on development of expressing emotions

and cooperation skills. From approximately the ages 3 to 7, social play is most prominent in play development. Furthermore from age 7 onwards, play is progressively influenced by peers. Around this same age social play evolves in games with rules, competition, risk taking and gaming (Nijhof et al., 2018).

### 4.2.2 Social play

When looking at the development of social play among children, Parten developed a hierarchy ladder of social play categories. Parten's theory outlines six stages in social play or social participation that toddlers and preschoolers progress through. The categories are, increasing in sociality of play: unoccupied, solitary, onlooker, parallel, associative and cooperative play (Ruth, 2023). Unoccupied, solitary and onlooker play are essentially non-social activities, parallel play features defined aspects of social participation, while associative and cooperative play involve actual social contact. Where Parten introduced the social play categories as sequential, it is argued that various factors may influence the social play development of children (Xu, 2008).

### 4.2.3 Physical and motor development

When looking at physical and motor development, at the age of 6, children begin to expand their skills from climbing and starting to run to walking and running on different surfaces, jumping and biking. Between the ages of 6 and 11, the speed, strength and precision of movements increases (Nijhof et al., 2018). However, children with developmental disabilities often lag behind their peers motor development. Each child can experience different obstacles and competences depending on their disability (Kara & Ceviker, 2023). From around the age of 11 to 15, puberty can cause a decrease in precision and strength (Nijhof et al., 2018).

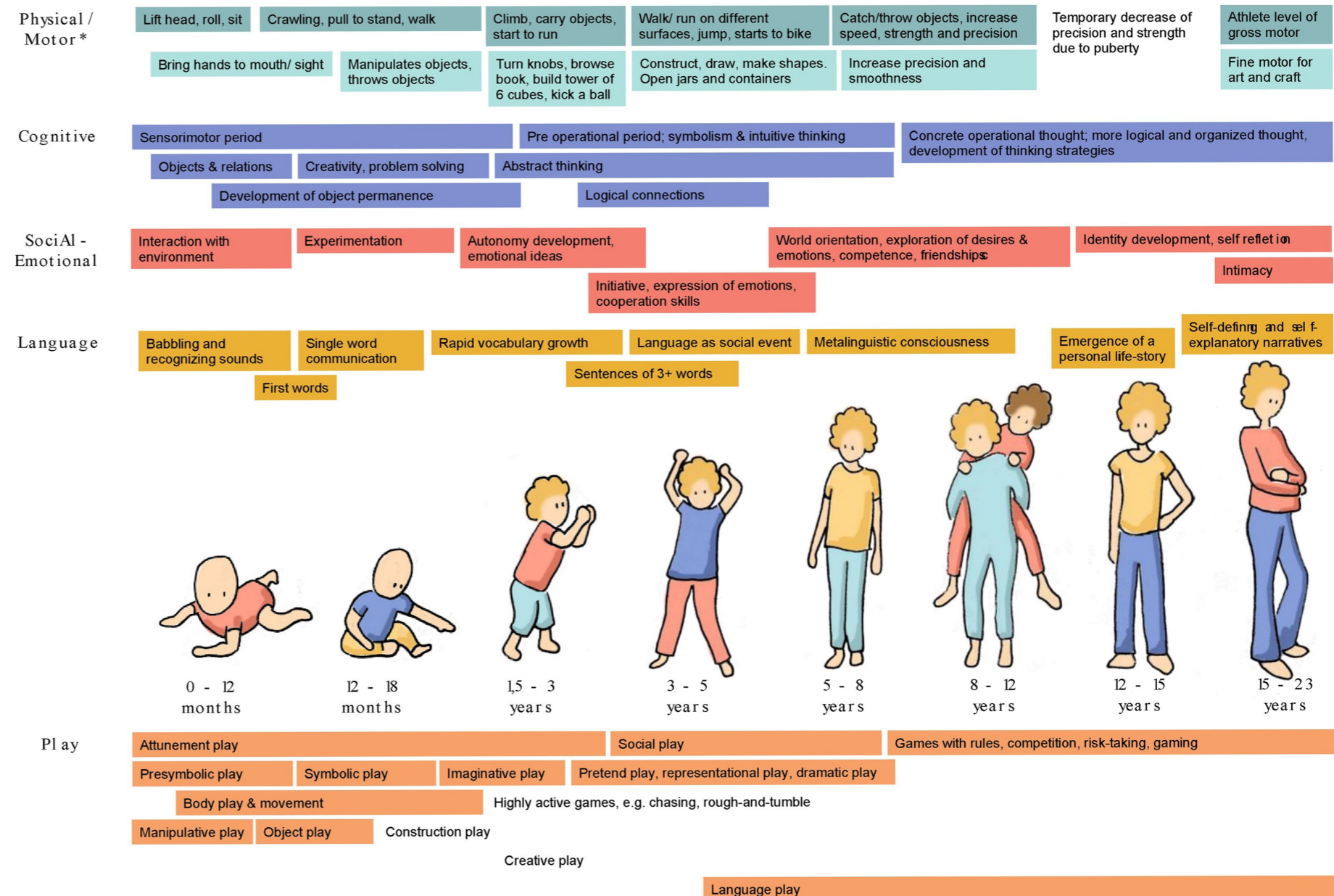


Figure 14. Development and play changes during childhood (Nijhof et al., 2018)

## 4.2.4 Conclusion

Important social and emotional development, ranging from expressions of emotions and cooperation skills to exploration of desires & emotions, competence and friendships, is reflected in the social aspects of play. Moreover, typically developing children aged 6 to 11 show an increase in speed, strength and precision. This can accentuate the visible differences in physical and motor development between when compared to children who are not typically developing.

The research project of 'Samen Spelen' focuses on children between 4 and 12 years old, which corresponds to the age of children in primary school. In this project, the age of the target group remained aligned with these ages. However, the mentioned social-emotional development around the ages of 5 to 8 are taken into account. These include: social play with more social participation, the start of friendship forming and exploration of desires & emotions. Lastly, the age range does not take precedence, as every child, particularly when focusing on children with disabilities, develops differently. In addition, the focus on children's social exclusion from participation in play activities is relevant at all ages and remains important as they grow up.

# 5. Deep dive into the social-emotional context

After the initial literature research, a deep dive into the social-emotional context is conducted. This chapter captures the insights from this immersion in context. The chapter starts with an explanation of the process and methods used for this deep dive. It continues with the findings, split up in three overarching themes: the environment (location and people), the set up and type of play activities, and the inner world of children.

The three overarching themes provided a structure for creating three posters that summarise the findings from the Discover phase, see Chapter 6.

### Main research questions:

- What social-emotional aspects prevent children with a disability from playing outside with other children?
- What social-emotional aspects prevent children with a disability from making and having contact with other children?
- What social-emotional aspects stimulate children with a disability to play outside with other children?
- What social-emotional aspects stimulate children with a disability to make and have contact with other children?
- What play activities are inclusive and why?

## 5.1 Explanation of methods and process

### Research methods

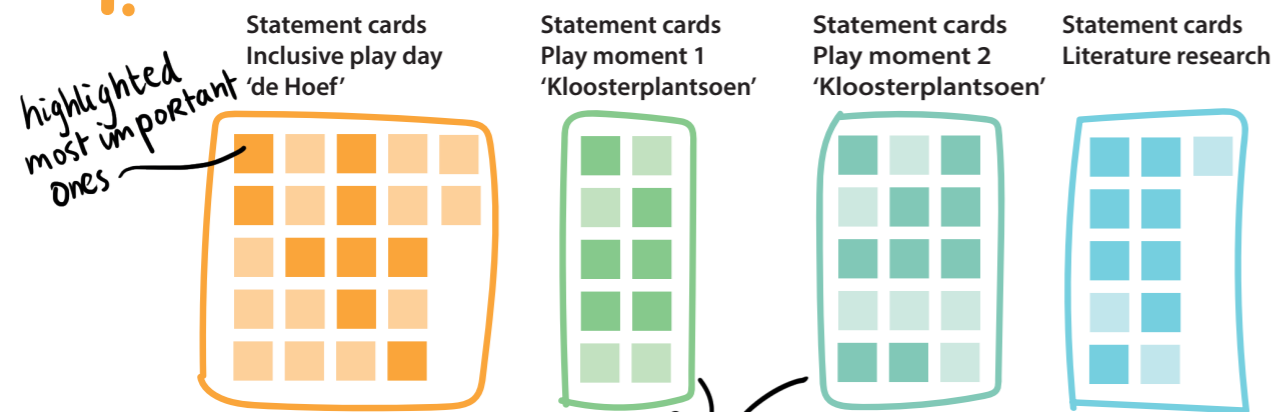
Different activities and methods are used to gain a deeper understanding of the social-emotional context. These included literature reviews, observations and talks at playgrounds, generative sessions with children, and conversation with experts. An overview of the activities can be found at the introduction of this phase Discover, on pages 34 & 35.

### Process of analysing data

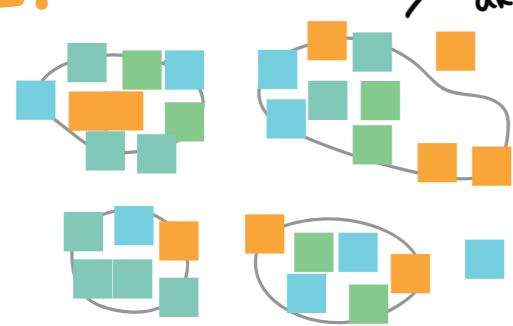
During the various research activities, relevant data was generated. This data was analysed, leading to three overarching themes that influence inclusive outdoor play. The process of gathering and analysing the data is illustrated in Figure 15. An elaboration on this process can be found in the following paragraphs. The raw insights on post-its and development in cluster analysis can be found in Appendix 4.

1. During and after the first research activities, insights gathered as statement cards in an online environment. The first research activities included attending inclusive play days and play moments. These were approached with an open mind. Data was collected by writing notes, drawing observations and taking pictures. The following overview outlines the approach taken:
  2. The first cluster analysis had no predefined starting point. This approach was taken to get a feeling of which insights were most relevant and what clusters could be formed. A subsequent cluster analysis was conducted, based on barriers and facilitators.
  3. A knowledge gap regarding the emotional aspect of the social-emotional context was revealed. To address this gap, the emotional context was the focus during analysis of the generative sessions with children. Additionally, an unstructured interview was conducted with an orthopedagogue. For this interview, a list of questions and topics was prepared, see Appendix 5.
  4. Insights from these two research activities were incorporated into the previous clusters. Subsequently, relations between clusters were identified and the most interesting clusters were highlighted. This process resulted in the selection of three overarching connecting themes.

**1. Gathering insights part 1**  
Insights gathered from the first research activities were noted down on post-its in an online environment. The most important ones were accentuated with a darker colour and used for clustering.

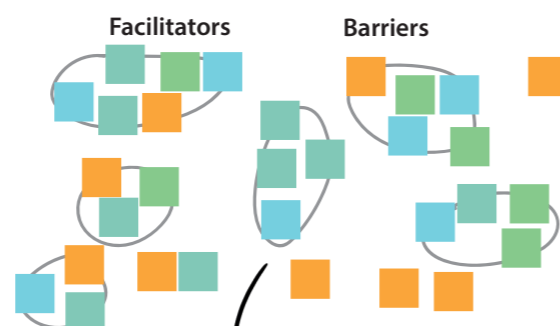


**2. Clustering 1**  
Without starting point



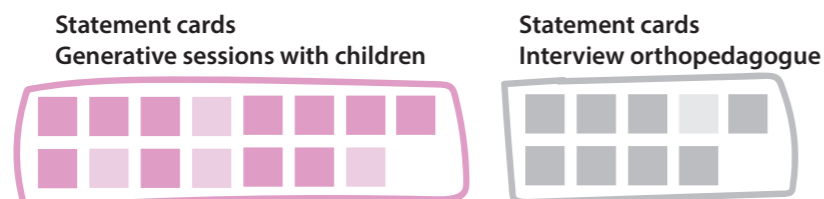
photos & sketches are used too

**Clustering 2**  
Based on barriers and facilitators



Some serve as facilitator & barrier

**3. Gathering insights part 2**  
Based on a lack of information on the emotional part of the social-emotional context, extra information was collected within research activities.



Focus on emotional facilitators & barriers

**4. Clustering 3**  
The new statement cards were added to the previous cluster analysis. Relations between clusters were found and the most important and promising clusters were pointed out. This led to the 3 overarching main themes.

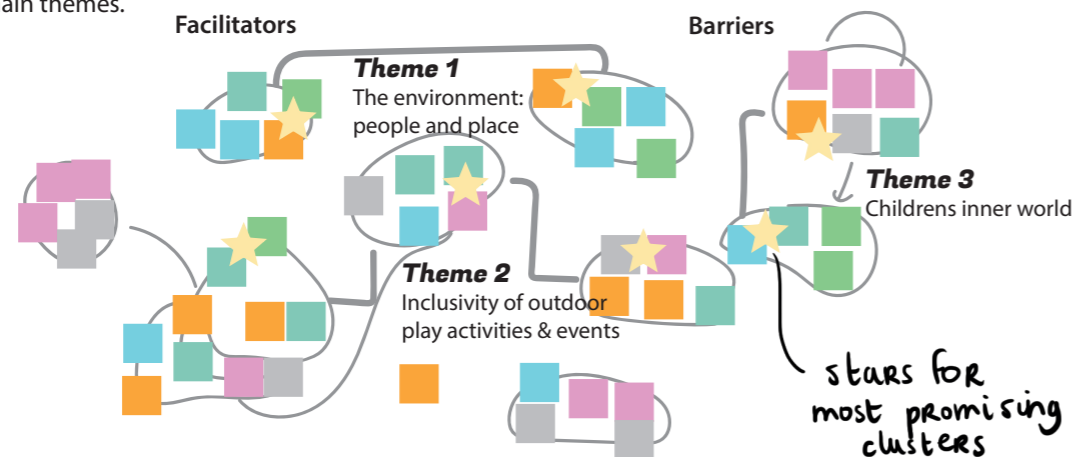


Figure 15. Overview of the process of data analysis

## 5.2 The environment: people and place

This chapter is focussed on the first found overarching theme 'The environment: people and place'. It discusses how the environment influences making contact and playing together. The insights presented in this chapter include the influence of diverse people: parents, experts, siblings, peers & friends. Additionally the chapter shortly explores the influence of the play areas. The insights are derived from a combination of literature research, observations and talks at playgrounds, as well as generative sessions with children.

These insights served as foundation for one of the posters concluding the Discover phase: 'Influence of the environment and bystanders on outdoor play and making contact', see page 57.

### Research questions:

What factors in the environment prevent children with a disability from making and having contact with other children (leading to outside play together)?

What factors in the environment stimulate children with a disability to make and have contact with other children (leading to outside play together)?

Research indicates that the environment has both negative and positive influences on participation in inclusive outdoor play. The social environment surrounding outdoor play includes the people present at play areas and the most important people in the lives of children with disabilities. Sometimes, these groups overlap. These people have a significant influence on the social and emotional barrier and facilitators experienced in outdoor play. They include parents or caregivers, experts, siblings and peers & friends. While the physical environment also affects social-emotional barriers, it is primarily driven by physical barriers. Since physical barriers are not the focus of this project, this aspect of the environment is only briefly addressed.

### 5.2.1 People

First the influence of the adults (parents and experts) is discussed. Followed by the influence of other children (siblings, peers & friends).

#### Parents

##### Intensive care

Parents and caretakers provide intensive care for their children, which results in not always having the time and ability to play outdoors. This is particularly common in the first years of the child's life (Engelen et al., 2021). Parents carry this care and attentiveness to the playground as well.

may hinder children from exploring contact and playing with peers on their own. In the study conducted by Engelen et al. (2021) it is found that worries from parents about the safety of their child with a physical disability can negatively influence children's self-esteem, autonomy and self-solving abilities of their child.

##### Influence of care in outdoor play

During observations at the playgrounds, it was noted that children with disabilities are often accompanied by their parents or caregivers. As the children moved through the play areas, parents were present almost every second, observing and helping their child when needed. In an observation, this constant supervision became particularly evident when a mother of a child with a disability asked if we could watch her child for a moment, because she needed to go to the bathroom (Inclusive play day 'De Hoef').

It can be concluded that, on the one hand, the constant care and attentiveness of parents can create a safe space for children with disabilities to play. On the other hand, it

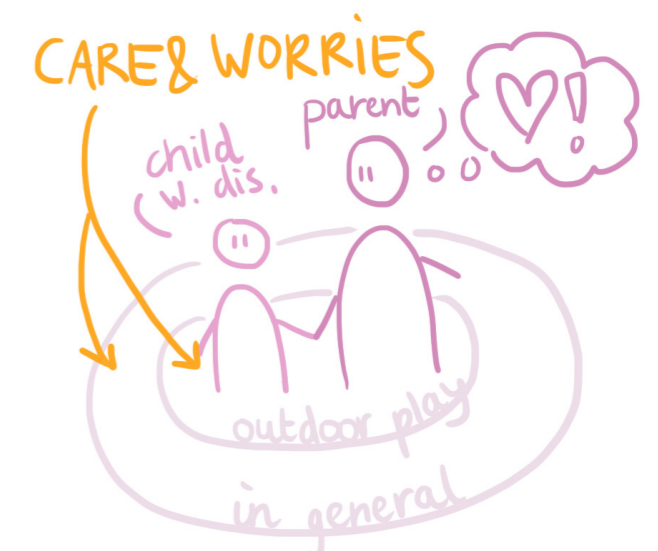


Figure 16. Care & worries of parents

## Experts

### Creating a safe space

It is observed that inclusive play activities are usually coordinated by experts, including parents of children with disabilities, paediatric physiotherapists and community sport coaches. The latter two organised the play moments at the playground 'Kloosterplantsoen'. The children invited to these play moments were clients of the paediatric physiotherapist and therefore already knew him. Due to this familiarity and trust, the threshold for children to come together to play at the playground was lower. Consequently, it was noted that most parents were not present during the play moments. Moreover, it was observed that the contact between the children and the physiotherapist was relaxed and easy going.

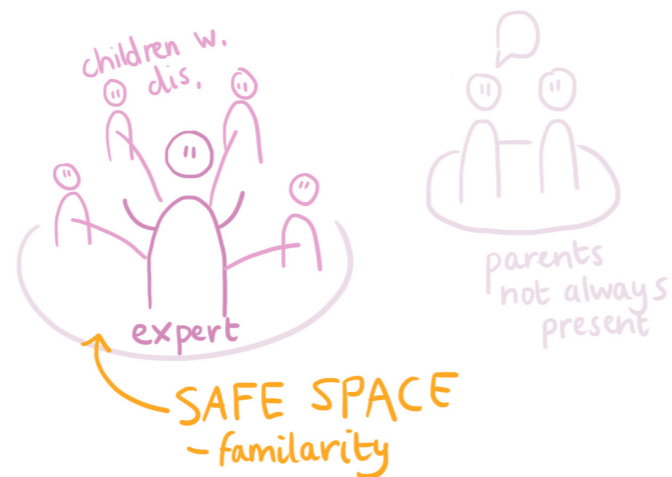


Figure 17. Safe space created by experts

## Siblings

Through multiple observations and conversations, it became clear that siblings of children with disabilities often join them at the playground. This text discusses the positive and negative influences.

### Positive influences of going with sibling

Parents of children with disabilities express that going to a play area with a typically developing child might make it easier to connect with others. (Engelen et al., 2021). This child may be a sibling, who can help foster contact with other children when necessary. Additionally, siblings from children with disabilities can easily adapt play activities to increase participation for other children with disabilities. This was observed during a game of hide and seek, where rules were modified to allow a child with a disability to equally participate (Play moment 'Kloosterplantsoen'). In some cases, the presence of a sibling, much like that of experts, can reduce the need for parental supervision or can cause it to fade into the background. This can enhance the feeling of autonomy among children with disabilities, explained one of the parents at the playground in IJsselstein.

### Negative influences of going with sibling

In addition to positive influences, it has been observed that the presence of siblings can have negative influences on making contact with peers. During an observation, an older brother joined his younger brother during an activity at an organised play moment. It was noted that the younger brother followed his older brother most of the time and did not initiate contact with other children (play moment 'Kloosterplantsoen'). This lack of initiation in contact, due to the tendency to stick together, is also evident between siblings who are both typically developing children (generative session Oosterhout).

Considering these findings, it can be concluded that on the one hand, going to the playground with a sibling can lower the threshold to make contact with peers; on the other hand, it reduces the motivation and need to make contact with other children.

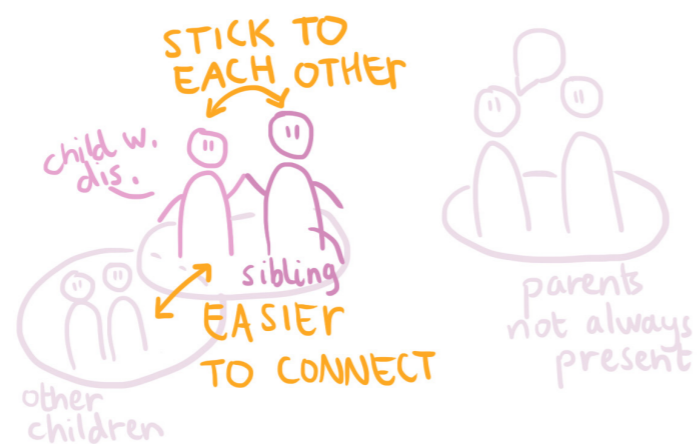


Figure 18. Siblings sticking to each other vs. facilitating easier connection

## Peers & friends

Just like siblings, peers and friends can have both positive and negative influences on the process of making contacts. Familiarity and unfamiliarity with one another play a role.

### Unfamiliarity: Lack of friends in the neighbourhood

Research by Stichting 'het Gehandicapte Kind' (2023) found that children with disabilities have fewer friends compared to their peers without disabilities. Moreover, children with disabilities can not always meet up with friends, often due to the fact that friends live far away or a lack of energy. One reason for the distance is that they attend school in a different neighbourhood. This situation has a negative effect on integration in society and ability to make friends (Engelen et al., 2021).

### Unfamiliarity: Reluctance in approaching, not knowing how to help

The significance of not knowing each other is highlighted by the insights of Samen Spelen gathered in the document 'Kenniskaarten' (2023): 'Lack of familiarity between children seems to be a greater barrier than a disability. Children who don't know each other don't easily play or talk together (though they do watch)'.

This reluctance to approach others for play, was emphasised in one of the generative sessions with children. When discussing what the children would do if someone seemed fun to play with, one child stated: 'I first wait for someone to come to me, instead of me going to them'. The other children present, both from special and regular education, agreed.

## 5.2.1 Place

Both the physical and social aspects of play areas influence children's likelihood of visiting them.

## Play areas

### Physical: Unaccessible play areas

A lack of good, fun and accessible outside play facilities can negatively influence the amount of outdoor play among children with disabilities. Samen Spelen notes that playgrounds are not always accessible for these children, due to uneven surfaces, narrow passages and a lack of accessible playground equipment (Kenniskaarten, 2023).

### Social: Unsafe play areas

In a conversation with a parent at a play moment at 'Kloosterplantsoen', it appeared that playgrounds are not always well maintained or provide a safe environment for playing. The feeling of unsafety when playing is also supported by insights from Samen Spelen, which illustrates that it is not always safe to play on the streets (Kenniskaarten, 2023).

This unfamiliarity can also manifest as uncertainty about how to help children with disabilities participate in play activities, despite the willingness to help. During the testing of a prototype of Samen Spelen in the generative sessions, it became apparent that the included activities focused on mobility and speed, could result in a participation gap. This gap arose because children tended to concentrate on their own, which highlighted the differences in movement abilities.

### Familiarity: Reluctance in making new friends

In addition to the influence of unfamiliarity, the familiarity among other children at play areas can also prevent children with disabilities that do not have friends in the neighbourhood from making new contact. This familiarity may include friends who already know each other, as well as siblings, as described earlier in this chapter under 'Siblings'.

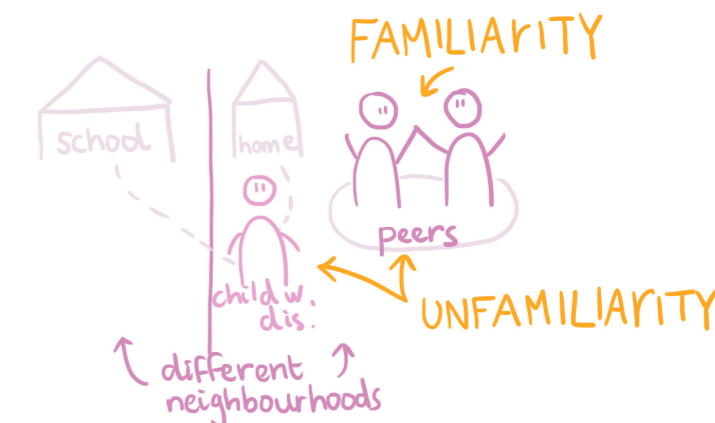


Figure 19. Familiarity & unfamiliarity between children



Figure 20. Unaccessible & unsafe play areas



## 5.3 Inclusive outdoor play activities

This chapter is focussed on the second found overarching theme: 'Inclusivity of outdoor play activities and events'. It begins by discussing how the setup of play events and activities influences contact among children. It continues by presenting elements of play activities that are accessible and engaging for children with disabilities.

The insights are based on a combination of literature research, observations and talks at playgrounds, and the attended generative sessions with children.

These insights served as foundation for one of the posters concluding the Discover phase: 'Influence of the activity on participation and making contact', see page 59.

### Research questions:

What kind of activities are interesting and accessible for children with a disability?

What activities stimulate children with a disability to make and have contact with other children (leading to outside play together)?

Through observations at inclusive play events and activities, it has been identified that the setup and elements of the activities serve as a foundation for inclusivity in play. These events included an inclusive play day at playground 'de Hoef', play moments at playground 'Kloosterplantsoen' and a play activity during the generative sessions with children, which involved testing a prototype of Samen Spelen. The organisation of inclusive play events can have both positive and negative influences on the ability of different children to make contact with each other. Furthermore, multiple elements from various play activities that facilitate inclusive and accessible play have been identified. Some activities may incorporate multiple inclusive play elements.

### 5.3.1 Set up of inclusive play events and activities

There has been a growing focus on organised inclusive play events and activities at playgrounds. This subchapter describes how the set up of inclusive play events and activities influences the contact making among children with disabilities, and between children with and without disabilities. First, the influence of the general organisation is described. Followed by a comparison between the organisation of one or multiple activities at the same time. For an overview of this subchapter see Figure 21.

#### Inclusive play events targeted at children with disabilities

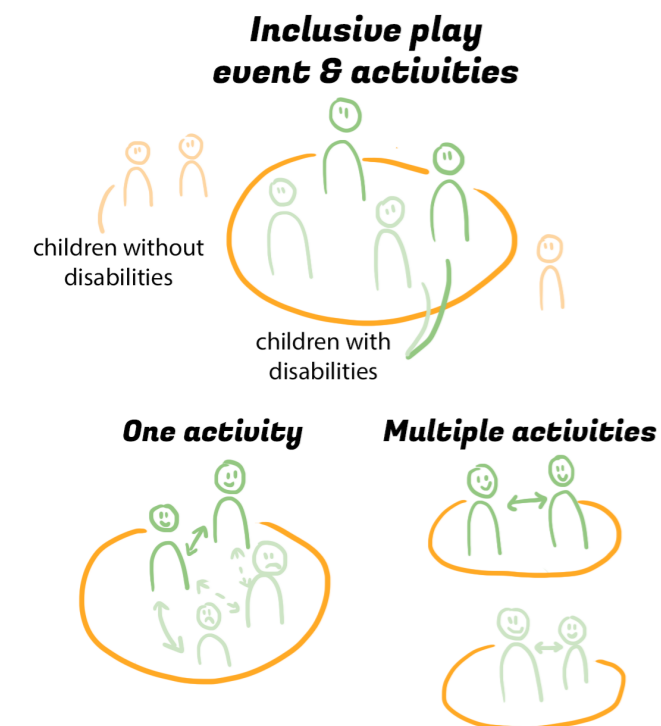


Figure 21. Inclusive play events: one activity vs. multiple activities

The visited inclusive play day at playground 'de Hoef', attracted families from far away, as noted in a conversation with a parent. This happens, because these days are promoted as inclusive, held in accessible locations, and offering accessible activities. However, it has been observed that these inclusive days do not always lead to much interaction or contact between children with and without disabilities. When such contact does occur, it is often facilitated by an adult.

The play afternoons at 'Kloosterplantsoen', are mainly attended by children who visit the paediatric physiotherapist, who is involved in organisation. The sessions encourage collaborative play and stimulate movement. Occasionally, children who happened to be at the playground join in on the activities. However, it is observed that children that have not been invited by the physiotherapist, apart from family members, tend to join less easily.

In conclusion, organised inclusive play events and activities mostly stimulate children with disabilities and their families to engage in outdoor play together.

#### One activity vs. multiple activities

When examining the various organised play activities observed, a difference was noted between offering one activity or multiple activities at a time. Both approaches can have positive and negative influences on the inclusivity and the potential for contact between children.

##### One activity

When a single activity was chosen at the play moment at 'Kloosterplantsoen' where everyone needed to participate, it created an opportunity for establishing contact between all children.

However, this approach can also highlight the differences in ability among children, which can discourage children from joining. For instance, during the activity based on speed differences became evident between children with various

physical (Play moment 'Kloosterplantsoen'). Moreover, this same difference, but then between children with and without disabilities, was observed when children played an activity based on speed and mobility (Generative sessions with children).

##### Multiple activities

Offering multiple activities also had positive and negative influences on inclusivity. When multiple activities were offered at once, at a play moment at 'Kloosterplantsoen', children were able to choose which activity to join. This choice stimulated autonomy among the children and a play activity that suited their personal preference and abilities. However, this approach takes away the opportunity to connect with the whole group.

### 5.3.2 Inclusive and accessible activities

Through observations, several elements that promote inclusivity of play activities have been identified. These elements include attracting attention, teamwork, speed and movement, free play and sensory play. Observations related to these elements and sub-elements are described here. For an overview see Figure 22.

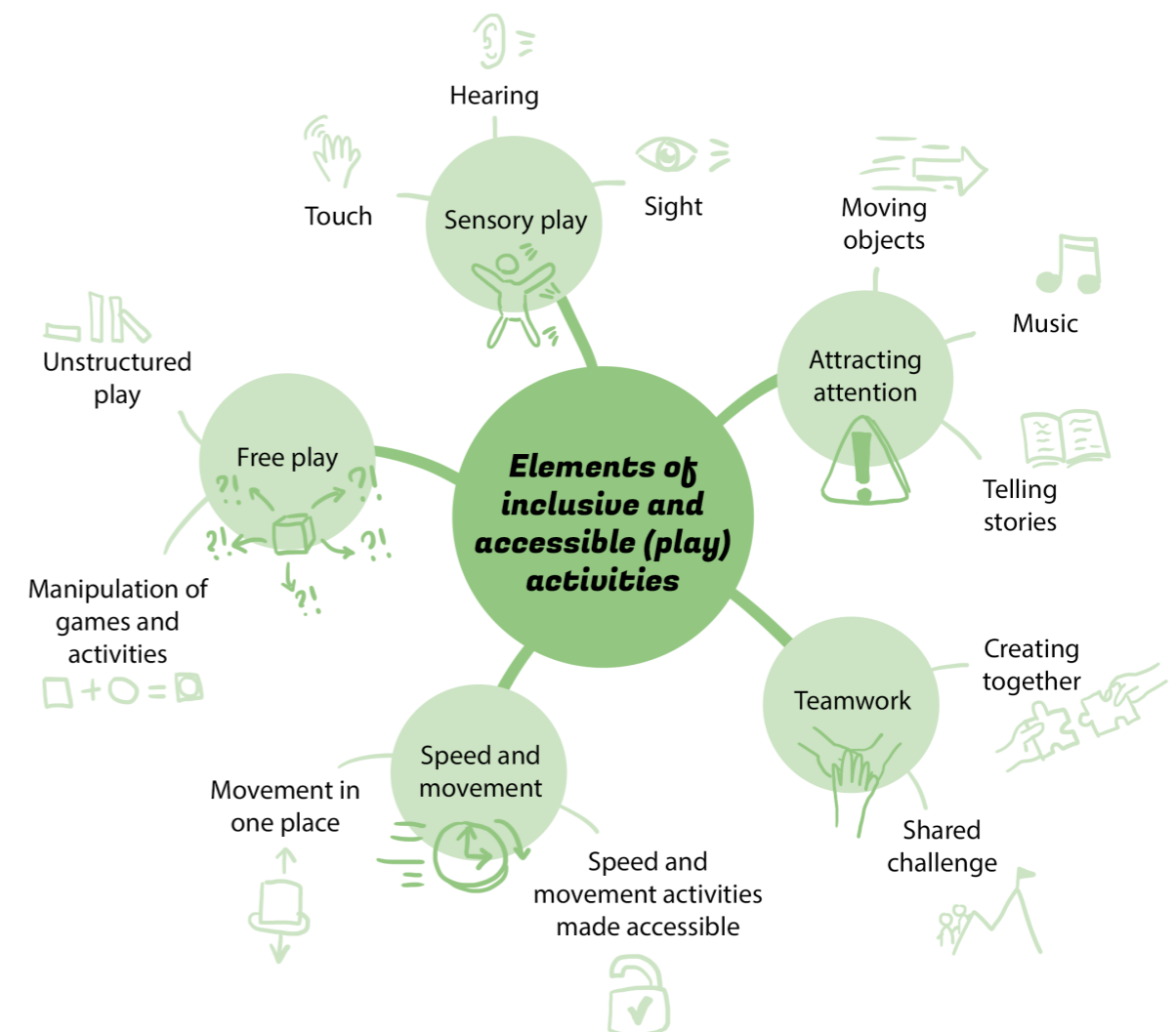


Figure 22. Overview of elements of inclusive and accessible (play) activities

## Attracting the attention



Inclusive play activities that draw children's attention can effectively bring them together. This can be achieved by moving objects, music, and telling stories.

### Moving objects

During a play moment,, a child was playing a throw and catch game with a velcro ball with an adult. After watching for some time, another asked if she could join in the game. The interaction with this moving object drew her attention. Additionally, moving plush lifesize in the senses theatre show 'Amigo' performed by De Lachende Zon attracted children's attention (inclusive play day 'De Hoef'). The attraction lies in the movement of these lifesize figures, which made them come alive.

### Music

Music can bring children together. During the theatre show 'Amigo', the performers created calm music together with the visiting children. The use and sounds of a variety of music instruments captivated the interest of the children.

### Telling stories

Stories that revolve around children's interests can effectively attract and hold the attention of children, as demonstrated at the performances at the inclusive play day at 'de Hoef'. The theatre piece 'Amigos' told a story about friendship and the reading session of 'Marley Praat Passie' shared a story about confidence, both holding the attention of children.

## Teamwork



Teamwork can take shape in multiple ways. Two of these are observed during context immersion and are described as follows.

### Creating together

Music can not only attract attention, as described earlier, but can also foster teamwork. At the theatre performance 'Amigo', performers engaged the visiting children and parents in creating music together. Furthermore, when necessary, they assisted each other in handling the instruments.

### Shared challenge

Another type of teamwork observed was the presence of a shared challenge. This shared challenge was for example evident in an activity that involved moving a round coloured tarp up and down. Each participating child held a corner of the tarp and was needed for the movement of the tarp, which fostered a shared goal (Play moment 'Kloosterplantsoen').

## Speed and movement



Speed and movement can be incorporated into activities in different ways to enhance inclusivity. Activities can implement movement in one place or activities based on moving around can be made inclusive for children with (physical) disabilities.

### Movement in one place

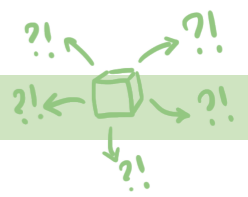
Activities that involve elements of speed and movement happening in one place, make the activity accessible for children with physical disabilities. Examples of these activities include moving a tarp up and down (play moment 'Kloosterplantsoen') and moving a bridge up and down, by walking or riding on it (inclusive play day 'de Hoef').

### Speed and movement activities made accessible

Sports or activities with speed and movements, which are made accessible for children with a physical disability can give children a kick. An example of this is the organisation of skiing trips for youngsters with a physical disability. Rosa de Vries described that different equipment, like for example sit ski's, make it possible to go skiing on the pistes (chat at play moment 'Kloosterplantsoen').

Besides, playgrounds are incorporating more accessible play equipment. This equipment makes movement and speed accessible and enjoyable for children with disabilities. An observation that confirms this insight, is the joy of a child in a wheelchair bouncing up and down on an inclusive trampoline (inclusive playday 'de Hoef').

## Free play



Free play activities are accessible to join and free for creation based on children's own wishes and abilities. Free play is usually described as unstructured play with objects. However, through research in context another type of free play is distinguished: free play by manipulation of games and activities.

### Unstructured play

In literature, Bento (2017) states that unstructured play has a positive influence on children's self-esteem, independence and confidence. This type of play is well illustrated by an observation with a box filled with foam, which allows for free play and creation. Some children just move their hands in the foam, while others create drawing with it or engage in foam fights (inclusive play day 'de Hoef').

### Manipulation of games and activities

Another interpretation of free play as an inclusive activity, is children's interest to create new games or play activities that incorporate elements from existing ones. This insight emerged during the analysis of the generative session with children, where they were asked to come up with new inclusive activities. Most of these activities were variations of existing activities with a twist.

## Sensory play



Various inclusive activities with a focus on engaging all children by stimulating their senses, were observed. Of the five senses touch, sight, hearing, smell and taste; elements of touch, sight and hearing were evident in inclusive activities. Activities based on senses, create opportunities for communication and collaborative play or creation, without the need for verbal interaction.

### Touch

The previously mentioned activity of play with foam, stimulated the senses of touch. Children would go through the foam with their hands, focusing on the soft feeling.

### Hearing

As described earlier, the theatre play by 'De Lachende Zon' featured a variety of music and sounds, which stimulated the auditory senses. This stimulation can be enjoyed together, with music and sound serving as a means of communication.

### Sight

When looking at the sense of sight, it was observed that colours can play a role in activities, fostering a mutual understanding among the participating children. Colours were used in the observed games Twister and in activities which involved moving a coloured tarp together. This shared understanding of colours made verbal communication not necessary to understand what to do.

## 5.4 Children's inner world

This chapter is focussed on the third found overarching theme 'Children's inner world'. It discusses how the inner world of children has an influence on contact with other children and vice versa. The starting point of this inner world exploration is self-efficacy and self-esteem.

The insights are derived from literature research, observations at playgrounds, the generative sessions at schools and an interview with an orthopedagogue.

These insights served as foundation for one of the posters concluding the Discover phase: 'Connection & experiences of a child with a disability', see page 61.

### Research questions:

What internal thoughts and emotions prevent children with a disability from making and having contact with other children (to play together outside)?

What internal thoughts and emotions stimulate children with a disability to make and have contact with other children (to play together outside)?

Research has been found that the inner world of children, consisting of internal thoughts and emotions, affects contact with other children and their participation in outdoor play. In Chapter 3.2 it is explained that self-esteem is one of the building blocks of the emotional barrier (Engelen et al., 2021). Furthermore, factors that promote activity in children among children with physical disabilities, such as self-efficacy, autonomy and focusing on possibilities, can enhance participation (Bolster et al., 2021). These factors are further examined and supplemented in relation to the social-emotional barriers. This chapter first examines the literature on these factors, followed by insights from my own research in context.

### 5.4.1 Literature research

In this subchapter, the literature research related to the theme of children's inner world is presented. First, the terms self-image, self-esteem and self-efficacy are explained. Next, findings in literature research regarding the inner world of children with disabilities are discussed. These include the found barriers of a lack of self-efficacy, self-esteem. Other influential factors, such as autonomy and focusing on possibilities, are also considered.

### Term explanation

#### Self-concept

Self-esteem and self-image are two of the three main elements that are part of the self-concept framework, described by Carl Rogers. Self-concept, can be described as "a theory that the individual has unwittingly constructed about himself as an experiencing, functioning individual" (Epstein, 1973, p. 407). (Brummelman & Thomas, 2017).

#### Self-image

Self-image is described as how someone sees themselves. How they see their appearance, abilities and personality (Vallejo, 2023).

#### Self-esteem

Orth and Robins (2014) clarifies by addressing multiple sources that 'self-esteem refers to an individual's subjective evaluation of his or her worth as a person'.

#### Self-efficacy

Self-efficacy is not about the general evaluation of oneself, but about the evaluation of someone's own ability to perform certain tasks. According to Bandura (1994), the founder of the self-efficacy theory, 'perceived self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives'.

### Factors on the emotional context

Figure 23 presents an overview of the influential factors on inclusive outdoor play identified in the research literature and the interview with the orthopedagogue Nandine Henry. Relevant subfactors, observed through immersion in context, are discussed in Chapter 5.4.2 and Chapter 5.4.3 and highlighted. A full list of the found factors and subfactors in research by Bolster et al. (2021) can be found in Appendix 6.

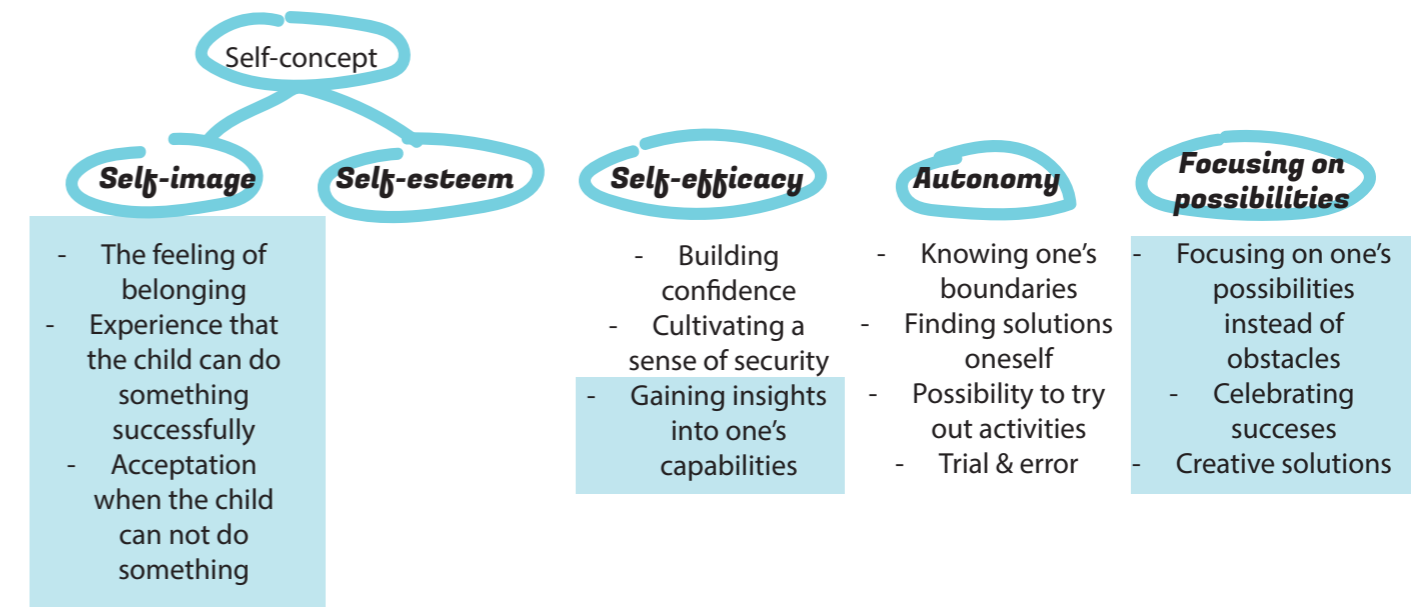


Figure 23. Relevant emotional factors identified in literature research

### 5.4.2 Research in context: focusing on possibilities & self-efficacy

Through research in context, deeper insights are gained into the factors self-efficacy and focusing on possibilities. Observations and talks during play moments at playground 'Kloosterplantsoen', along with the generative sessions with children, provided valuable insights into these factors and are discussed here.

### Focusing on possibilities

#### Celebrating successes

Through observations at the playground 'Kloosterplantsoen', it was seen that children who enjoyed outdoor play and felt proud of their achievements eagerly shared these moments. For instance, one young child kept calling out, 'Grandpa, Grandpa!' to draw attention to her accomplishment of climbing a rock. Another child, participating in an inclusive play activity, proudly demonstrated how far he had run in a race organised by the physiotherapist.

#### Focus on one's possibilities instead of obstacles & cultivating a sense of security

In contrast, another child with a visible physical disability hesitated to join the running activity, feeling his ability was insufficient and ultimately withdrew from the activity. In this observation, focus was on the obstacles. However, a different experience unfolded as a parent encouraged her child with a disability to climb in a safe yet challenging manner. This focus on possibilities, can foster children's confidence.

Later, the same child, despite difficulty in joining a game of tag, participated in her own way within the group playing tag. This own way of participating, led to brief but meaningful interactions, including touches, looking at each other, and laughter (play moment 'Kloosterplantsoen').

#### Finding creative solutions

During a play moment at 'Kloosterplantsoen', a child with a physical disability wanted to participate in the game of tag. The other children adjusted the game to ensure this child could join in. They had previous experience in playing with other children with disabilities. Based on their experience they found solutions that allowed others to join.

## Self-efficacy

### Insights into one's capabilities

Generative sessions with children revealed that children with disabilities generally found it harder to identify their capabilities, though they could easily point out their challenges. In contrast, children without disabilities more easily named things they were good at but found it harder to identify something they found difficult to do. This illustrates that children with disabilities do not always have insights into their own capabilities.

Another observation revealed children with disabilities demonstrated their confidence in their capabilities. When a wheelchair race was suggested as an activity to do, children in wheelchairs responded with pride, saying, "I am faster anyway," and, "But safety comes first, so we are going to explain how it works." This encouragement from others helped enhance a positive view on their self-efficacy and capabilities.

## Conclusion

Observations indicate that focusing on possibilities and on gaining insights into one's capabilities helps children feel positive about themselves and creates openness to participating in their own way. However, since each child is unique, designing inclusive activities that focus on all children's strengths rather than obstacles can be challenging.

## 5.4.3 Research in context: Self-esteem & self-image

*This subchapter describes what influences children's self-image, which can contribute to overcoming or hindering the emotional barrier of self-esteem. First, the formation of a positive-self image is described, followed by factors that construct a negative self-image.*

To gain more insights into self-esteem and self-image among children with disabilities, an interview with orthopedagogue Nandine Henry was done. She participated in one of the generative sessions with children. Previously, it has been described that self-esteem and self-image are related to each other within the self-concept framework. Both terms relate to how children perceive themselves. Consequently information about the self-image of children is also used to describe the emotional barrier of self-esteem.

## Positive self-image

### Factors influencing positive self-image

The orthopedagogue argued that the most important factors that build a positive self-image for children with disabilities are:

- The feeling of belonging
- Experience that the child can do something successfully
- Acceptation when the child can not do something

## Negative self-image

### Metaphor

The orthopedagogue used a metaphor to describe how children with a negative self-image process thoughts: negative thoughts travel quickly on a 'highway', while positive thoughts take slower, 'forest trails'. This focus on the negative thoughts, explained in the VGCT Factsheet (2022) as 'wearing negative glasses', causes children's brains to filter out positive thoughts and even distort positive experiences toward negative, see Figure 24.

### Negative experience in contact

In a generative session, stories from children with disabilities highlighted how negative experiences in contact can create a negative self-image, hinder forming new friendships, and reduce their initiative to form new contact with others. One child shared, "They said no, I do not want to get sick; you are contagious. Since then, they never came to play with me again." Another child explained, "Some kids do not understand me and then start talking to each other, asking what I am saying. I would rather that you tell me that you do not understand me." This aligns with insights from 'Stichting Gehandicapte Kind' (2023), mentioning that children with disabilities often feel misunderstood by their peers and vice versa.

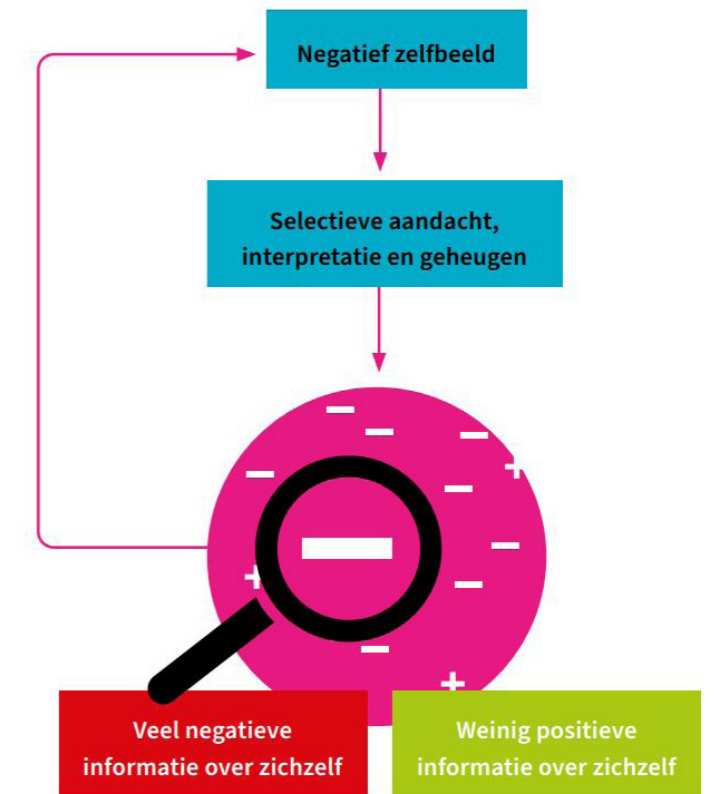


Figure 24. Negative self-image (VGCT Factsheet, 2022)

## Conclusion

Building a positive self-image strengthens the self-esteem of children with disabilities. This can help them overcome emotional barriers experienced in outdoor play. The first factor that facilitates a positive self-image, 'the feeling of belonging', can increase the formation of new contacts with other children. Additionally the factors 'experience that the child can do something successfully' and 'acceptance when the child can not do something' are the opposite of each other, both stimulating children's self-esteem. These factors are in line with stimulating self efficacy.

Furthermore, previous negative experiences in contact hinder children with disabilities from making new contact and reduction of their participation in outdoor play.

In conclusion, focusing on shaping positive experiences and thoughts for children with disabilities is essential for achieving inclusive play and participation.

## 6. Posters concluding the 'Discover' phase

This chapter concludes the Discover phase by gathering all insights into three posters. The themes of the posters are led by the three overarching themes discovered in chapter 5. The posters are titled 'Influence of the environment and bystanders on outdoor play and making contact', 'Influence of the activity on participation and making contact' and 'Connection & experiences of a child with a disability'. The posters are used as guiding principles throughout the next phases of Defining and Developing.

Based on the three overarching themes found in the cluster analysis, see Figure 15 on page 44, three concluding posters are constructed. More elaborated information about these themes can be found in the previous Chapter 5. The posters have evolved over time, based on feedback and reviewing the clusters and insights again. These posters provide a coherent story around the factors that have an influence on, and issues and opportunities around making contact between children with and without a disability in outdoor play situations. In each subchapter one of the posters is introduced and shown.

### 6.1 Poster 1: Influence of the environment and bystanders on outdoor play and making contact

This subchapter presents the first conclusion poster with as core the insights discussed in Chapter 5.2 'The environment: location and people'. It concludes with the main findings regarding the influence of the environment and bystanders on the child.

The poster is structured in three layers. The top layer, the darkest, summarises the influence of the physical environment. The second layer explains the influence of family and experts. The most inner layer focuses on other children in the environment, as they are most closely involved in contact making, being the peers with whom play connections are established. The last two layers have overlap, since family members can also include children.

## Influence of the environment and bystanders on outdoor play and making contact

### ENVIRONMENT

Lack of good outdoor play facilities in the neighbourhood prevents children from playing outside

This can manifest in unmaintained play areas, a lack of physical accessible play spaces, an unpleasant neighbourhood, and children showing little interest in the existing play areas nearby.

### FAMILY & EXPERTS

Parents who experience fear, unknowingly hold their child back from playing together outside

Parents' protectiveness and need to monitor their child can prevent the child from going outside and playing freely.

Little room for playing outside

Due to the intensive care parents provide for their child and the major effort required to reach a suitable outdoor play area, outdoor play activities often take a back seat.

Coming with family lowers the threshold to go, but also leads to clinginess

Going to a playground with family feels safe: they know each other well and can help the child physically and socially. Engaging in activities with siblings can provide the child with a sense of autonomy. However, the child can cling to family members, which can prevent the child from making new contact.



Feeling safe

Trusted experts nearby create a safe space for outdoor play

Trusted and familiar experts can include: professionals such as physiotherapists, other parents with a child with a disability who share experience and understanding, as well as teachers and family. They can encourage and slow down children, when necessary.

### CHILDREN

Familiarity between children hinders the formation of new contact with an unknown child

The familiarity that already exists between children, or in other words, not being together in the unfamiliarity, leads to fewer new contacts being made.

Experience in playing with children with disabilities leads to easier play together

For example, children who have siblings or friends with a disability know that they can adapt their play for other children and how this can be done.

Familiar

In making contact

Unfamiliarity between children hinders making contact

Unfamiliarity can manifest in a child not knowing other children in the neighborhood or at the play area. Additionally, children without disabilities can be unfamiliar with interacting with children with disabilities, and children with disabilities may not always have much experience initiating contact with other children. Children can adopt a wait-and-see attitude, even if they are interested in playing together.



Unfamiliar

In playing together

Willingness of children to help VS. playing children focused on themselves in practice

Children without disabilities indicate that they want to help children with disabilities with outdoor play activities that are challenging for them. However, they do not always know how. In practice, they often unconsciously start the activity with a focus on themselves. This mainly concerns activities that focus on mobility and speed.

## 6.2 Poster 2: Influence of the activity on participation and making contact

This subchapter presents the second conclusion poster with as core the insights discussed in Chapter 5.3 'Inclusive outdoor play activities'. It concludes with the main findings regarding the influence of (outdoor) play activities on participation of children and making contact with others.

The poster is divided in a top and bottom layer. The top layer argues how different ways of setting up play activities for a diverse group of children can influence the participation and possibilities for making contact. The bottom layer shows a variety of activities and elements of activities that score high on accessibility. These activities have a positive influence on participation of children and have overlap with each other.

# Influence of the activity on participation and making contact

### One big interplay: promotes contact among all children but reduces the suitability of the play

Everyone is asked to play together, which offers more opportunities for contact between a variety of children. However, not everyone can always participate at the same level, which can lead to exclusion and ultimately less contact.



### Sensory activity stimulates various senses

Think of using sound (making music), touch (the tactility of materials), sight, working with colour, and storytelling.



### Free play activities are accessible through open interpretation

Free and imaginative activities with free play elements or nature elements can be carried out in various ways by children. Children also enjoy coming up with new games based on existing ones.

### Activity with speed makes the difference between children with and without physical disabilities clearly visible

Children without physical disabilities quickly start tasks focused on speed and motor skills, while children with physical disabilities are often left behind, merely watching.

### Organised activities primarily encourage children with disabilities to play together outdoors

Organised activities make children and parents feel welcome and safe to come and play outside. These activities especially stimulate interaction between children with disabilities. Children with disabilities and children without disabilities often still play next to each other.

## ACTIVITY SETUP

## ACTIVITY ITSELF

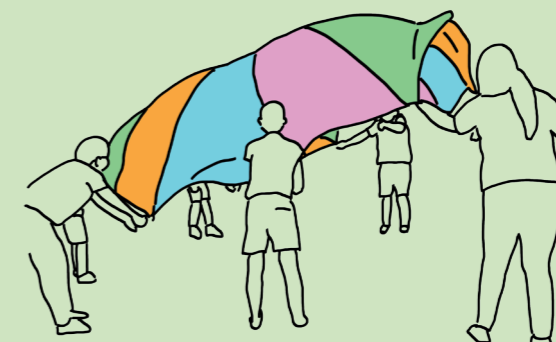
### Accessible activities encourage a variety of children to play

Accessible activities promote participation among different types of children. Various activities that enhance accessibility are described here.



### Activities with movement or speed provide a thrill and reduce the focus on physical barriers

Think of the opportunity for children with disabilities to go skiing or use a trampoline. Or to move in one place where the focus is not on speed.



### Multiple activities at once: enhances the suitability of play but reduces contact among all children

Children can choose a game that matches their abilities and interests, giving them a sense of autonomy. However, playing next to each other rather than with each other results in less contact between children with different needs who could learn from one another.



### Attention-grabbing activities can bring children together

An activity or appearance that looks inviting or interesting can attract children to come and play. Think of sound and music, living and moving objects or creatures, and a visible, understandable interaction between children.

### Activity with teamwork stimulates contact and playing together

When teamwork is required to achieve something together, it encourages children to help each other in a shared challenge, to set a reaction in motion, or to create something collectively.

## 6.3 Poster 3: Connection & experiences of a child with a disability

This subchapter presents the third and last conclusion poster with as core the insights discussed in Chapter 5.4 'Children's inner world'. It concludes with the main findings regarding children's emotional experiences and the connection of a child with disabilities.

The poster is split up in a negative and positive side. The left side introduces the negative experiences in contact with others and a negative view on integrating with other children. The right side shifts to a positive view. It illustrates how focus on creating positive involvement and opportunities for participation positively influences children's inner world and experiences in contact with others.

## Connection & experiences of a child with a disability

**NEGATIVE**

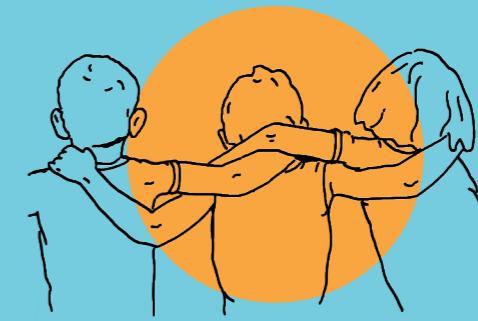
**POSITIVE**

### Unpleasant experiences prevent children from playing together outdoors

Unpleasant experiences can be experiences during outdoor play activities when children with disabilities feel they are unable to participate compared to their peers without disabilities. These experiences can also be hurtful experiences, that cause a child with a disability to develop a negative self-image, lose friends, or become hesitant in making contact with new children.

### Each child (with a disability) is different, making participation and inclusion for all challenging

Differences in needs and abilities between children with and without disabilities, between children with disabilities, and even within a child with a disability depending on the situation, make it complicated to tailor outdoor play activities (and education) to all children. Consider differences in physical and social responsiveness, and the right amount of stimuli that stimulate rather than hinder.



### Openness to a child's own way of participating can lead to greater inclusion

The possibility for each child to play together and make contact with other children at their own level, in a way that suits the individual and their abilities. This can lead to participation in outdoor play for children with different types of disabilities and experiences.



### Focusing on positive experiences, opportunities, and expressions enhances self-confidence

These positive experiences can be expressed in: Publicly celebrating victories, by showing what you can do or by telling others what you can do. Looking for possibilities, rather than obstacles in playing together and putting that into action. Feeling that something is succeeding, that you are good at it or even an expert. Having opportunity for doing it yourself, creating autonomy. Experiencing new positive contact with children after a negative experience. Cheerful expressions of necessary aids. Experiencing acceptance when something does not work, which contributes to weakening the negative self-image and offering new opportunities for positive experiences.

### A sense of belonging has a positive effect on self-image

The feeling of belonging and being involved in a group gives a positive feeling about yourself. The relationship and bond with others influences the self-image. Think of having similarities with others, being together in the same experience. Previously acquired negative experiences in contact can influence making new contact.

### Small contact is still contact

In addition to all the activities, play equipment and play prompts that can lead to playing together, there are also smaller ways of making contact. This include making eye contact, briefly touching each other, laughing (together) or knowing and using each other's name.

# MAIN TAKEAWAYS

## CH.3

Research and design for the social and emotional aspects of **inclusivity in (outdoor) play is important**. Key background information that stimulates this finding is:

- Play, and in particular outdoor play, is not only beneficial for physical, cognitive and psychomotor development, but also for social and emotional development. It provides an environment to experiment with social interactions and communications.
- Play is especially important for children with disabilities. It helps their development and fosters an environment where confidence and friendships within the neighbourhood can be built. Moreover, contact and play among diverse children contribute to an inclusive society.
- Children with disabilities experience social and emotional barriers regarding outdoor play with others: they are often unfamiliar with the children in their neighbourhood because they attend special education located elsewhere. Besides, a lack of self-esteem, autonomy and self-solving abilities hinders playing together with other children.

## CH.4

The focus of this project is on **permanent disabilities**; however, no specific disabilities or age groups within the primary school range (4-12 years) are selected. Important background information for this conclusion includes:

- Categorising disabilities is challenging, because they are debated and unstable. The World Health Organization developed the **Biopsychosocial model**, which seeks to explain disabilities by integrating biological, individual, and social factors. This model aims to reflect the variations in differences among individuals and across contexts.
- Disabilities can be classified as permanent, temporary, or situational, as well as visible or invisible.
- The development and play changes of children are not fixed or universal, especially regarding children with disabilities, where developmental trajectories often vary.
- The social development of children, including friendship formation and social play (Parten's theory), typically occurs between the ages of 3 and 12. Emotional development during these ages involves the development of competence and the exploration of desires and emotions, especially in terms of expressing emotions and developing cooperative skills.

## CH.5

A deep dive into the influences on inclusive outdoor play within a social-emotional context, provided insights into three themes: **1. The environment: people and place**, **2. Inclusive outdoor play activities**, **3. Children's inner world**. A summary of factors that have this influence are described:

1.
  - Important adults, such as family and experts: Parents can withhold children from exploring through play due to the need to create a safe environment for their child. The presence of family and experts creates a safe space to play.
  - Other children, familiar or unfamiliar, including siblings and peers & friends: Siblings can join activities, creating a safe space in both positive and negative ways. Unfamiliarity between children and familiarity between other children raises the threshold for making new contact.
2.
  - Activities based on invitation and attraction, teamwork, specific speed and movement, free play, and sensory stimulation are found to be highly accessible.
  - Organised inclusive play events and activities are often facilitated by adults and are primarily attended by children with disabilities. The facilitated activities create opportunities for participation and contact between children but can also highlight differences in abilities.
3.
  - Celebrating successes and insights into one's capabilities can help build self-efficacy and focus on possibilities. Children with disabilities can struggle to articulate what they are good at.
  - Negative experiences in contact with other children can negatively influence the initiative to make new contacts and the self-image of children with disabilities. The feeling of belonging, the experience of doing something successfully, and acceptance when something is not possible can positively influence their self-image.

## CH.6

The phase Discover is concluded with three posters, based on the three themes discovered in Chapter 5:

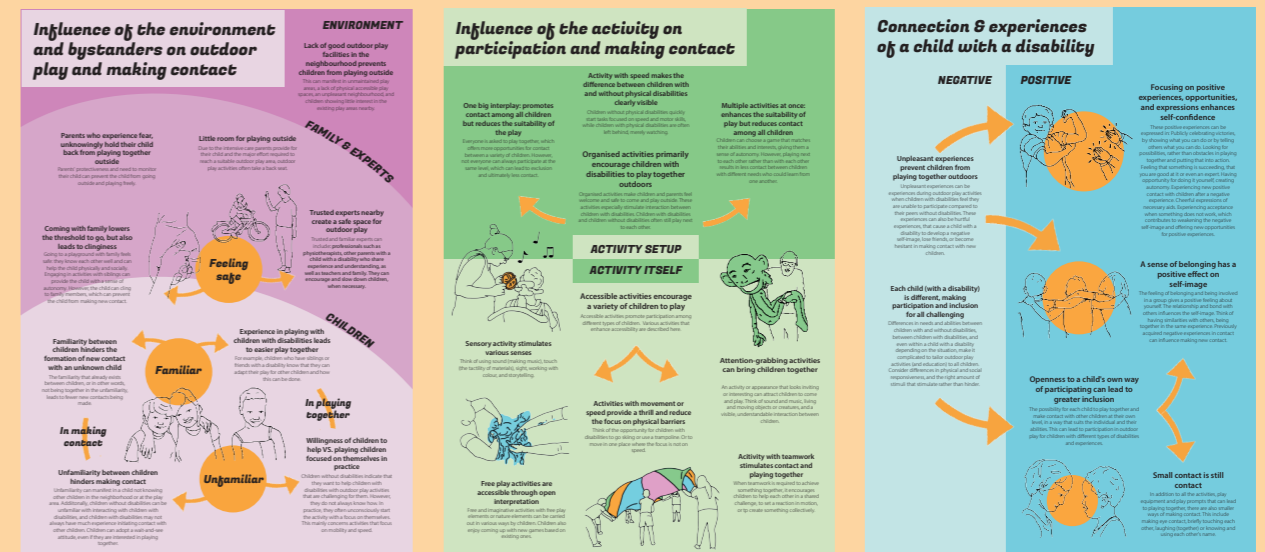






Figure 25. Photo inclusive play day 'De Hoef' (photo from 'InContact Bijzonder')

**DEFINIE**

# CONTENT

## 7. Situation sketch

- 7.1 Identified means, obstacles & end/goal
- 7.2 Desired situation sketch

## 8. Design vision

- 8.1 Project focus
- 8.2 Design goal
- 8.3 Requirements & wishes
- 8.4 Project focus and goal within the broader context

# INTRODUCTION

*The Define phase focuses on defining the challenge. This is done by creating a situation sketch and design vision.*

*This phase begins with the development of a situation sketch. The three posters concluding the Discover phase are used to identify means, obstacles & end/goal and the desired situation sketch. Next, the design vision is illustrated, which is structured around the project focus, design goal, requirements & wishes, and the broader context. The most significant means, obstacles & end/goal are selected to shape the project focus and design goal. The requirements & wishes are derived from this project focus and design goal. The design vision concludes with zooming out on the project focus and design goal, placing it in the broader context of inclusive design.*

*The insights from this phase are used to start ideation and conceptualization in the next phase Develop.*

# RESEARCH AND DESIGN ACTIVITIES

<b>ACTIVITY</b>	<b>PLACE/ DATE</b>	<b>GOAL</b>	<b>METHODS</b>	<b>EXTRA INFORMATION</b>
<b>Presenting conclusion posters</b> to Samen Spelen team	Hogeschool Utrecht 6/06/2024	Gaining feedback (most promising themes and if they could identify with it) on my insights by showing my three posters concluding the discover phase	Discussion with printed posters	<b>Type and amount of participants:</b> around 4 members of Samen Spelen <b>Supporting materials:</b> 3 printed posters with insights <b>Data collection:</b> Written notes
<b>Presenting evolving design vision</b> to Samen Spelen team	Online cal 20/06/2024	Gaining feedback on my design goal and vision, and visuals	Presenting and discussing my design vision and goal	<b>Type and amount of participants:</b> around 4 members of Samen Spelen <b>Supporting materials:</b> Initial design goals and visuals of design vision <b>Data collection:</b> Written notes

Table 3: Overview most important research and design activities in the Define phase

# 7. Situation sketch

This chapter outlines the steps taken from translating the most important insights from the Discover phase into the design vision, which can be found in the next chapter.

In this chapter, the three concluding posters from the previous phase are used to identify means, obstacles & end/goal. Moreover, this chapter presents the desired situation sketch, based on the identified means, obstacles & end/goal. This sketched out ideal world includes positive experiences in the physical world, the thought world and feeling world.

## 7.1 Identified means, obstacles and end/goal

In this chapter, the three insight posters, concluding the Discover phase, are analysed in order to provide different information inputs for developing the design vision. Identifying means, obstacles and end/goal from the posters helped in pinpointing the most important and interesting information.

The posters concluding the Discover phase, see Chapter 6, are analysed based on type of information and divided into three categories: means, obstacles and end/goal. These identified categories serve as various inputs for the design vision. Some insights function as both means and obstacles. For the analysis, see Figure 26.

### 7.1.1 Goal/end

The right section labelled 'positive' on the third blue poster 'Influence of the environment and bystanders on outdoor play and making contact' represents the goal or end and serves as a foundation for the desired future interaction and design goal. These objectives include: striving for openness and looking for opportunities for a child's own way of participating, which can increase the feeling of belonging, as well as fostering positive play experiences for children.

### 7.1.2 Means

Within this goal-oriented insights from the third poster, one means is covered: facilitating small contact between children. This small contact focuses on the natural flow of making contact among children, without the need of it being full play. The identified means could serve as inspirational ingredients towards achieving the end/goal. Other means discovered in poster 1 and 2 include the facilitation by experts and family members, who can help create a safe space for play. Another means is organisation of activities for all children, with focus on inclusion of children with disabilities and the willingness of children to help each other. Lastly, elements from the researched and observed inclusive activities could serve as a means towards reaching the goal.

### 7.1.3 Obstacles

Besides means, obstacles are identified, which in some cases are closely related to the means. Family can not only serve as a means to reach the goal, but can also withhold children from playing together by clinging to each other for a safe feeling. When organised activities are based on speed and mobility, which creates meaningful opportunities for more movement of children with disabilities, this can also lead to lower participation for some. This lower participation is a result, because differences in abilities between children become more apparent. Another obstacle is the unfamiliarity among children and the familiarity among others, which hinders the formation of new contacts.

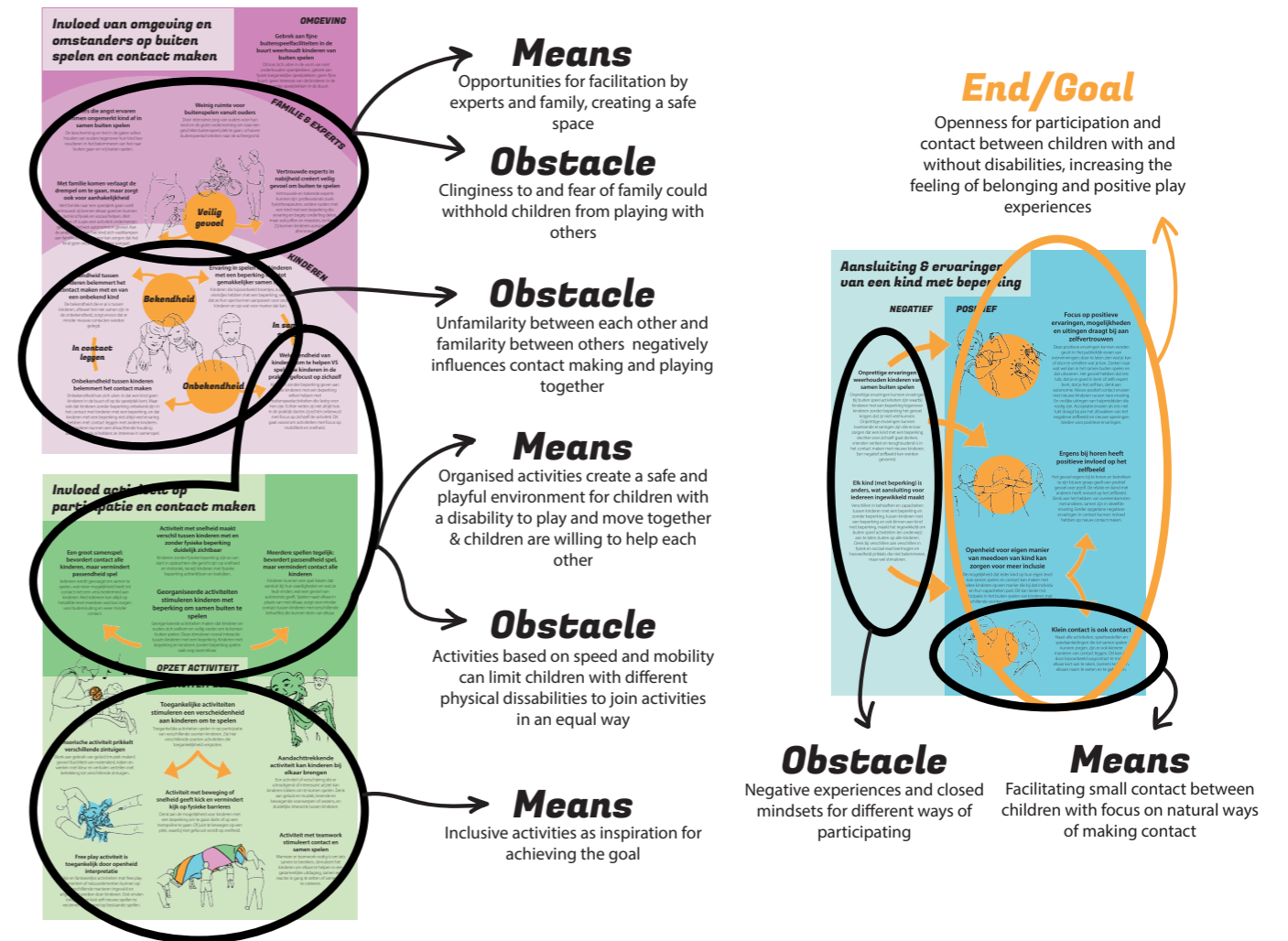


Figure 26. 3 insights posters with identified obstacles means and end/goals

## 7.2 Desired situation sketch

Based on the insights from the three posters and the categorisation into means, obstacles and end/goal, presented in the previous chapter, a desired situation sketch is made. This sketch outlines the desired impact on the physical, thought and feeling levels. Using this desired situation sketch, the project focus will be determined, which will be detailed in the next chapter.

Based on the insights gathered, including means, obstacles and end/goal, a desired situation sketch is created. This desired situation sketch illustrates the ideal experienced situation and evoked interactions resulting from the yet-to-be-designed intervention. The desired situation sketch is divided into three worlds: the physical world, the thought

world and the feeling world. In this way, the situation sketch includes the social and emotional context. These worlds and their corresponding desired contact, thoughts and feelings influence one another and do not exist on their own. Just as with the intertwined social and emotional contexts. For the desired situation sketch, see Figure 27.

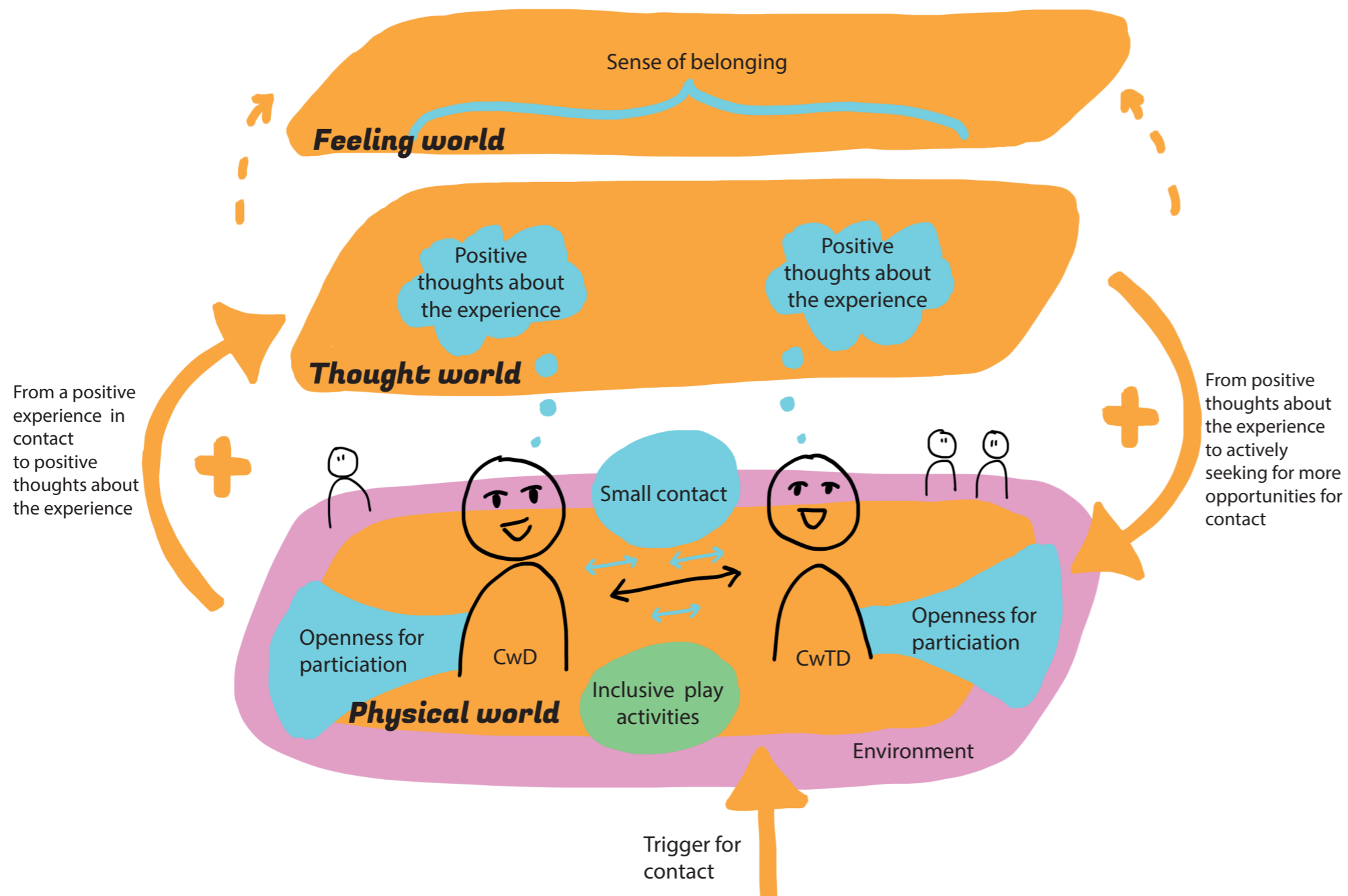


Figure 27. Desired situation sketch with 3 worlds

### 7.2.1 Physical world

The first world is the physical world, the world in which our bodies exist and we can observe. In this desired physical world, children with and without disabilities are present and interact with each other. These interactions can be initiated through the means of small contact and elements of inclusive activities.

Small contact refers to an accessible, safe and natural way for children to make contact with each other. This contact does not necessarily involve playing together and can be direct or indirect contact. Elements of inclusive activities can inspire the design of these small contact moments. Stimulating small contact, based on inclusive play elements, can enhance the openness for participation of children in outdoor play.

To establish this initial step towards the desired situation, a trigger for contact and participation between a child with a disability and a child without a disability must be present. In this physical world, the environment contains objects and people with their own thoughts and feelings. The presence of these people, like family, experts and other children, can have both a positive as a negative influence on participation

### 7.2.2 Thought world

The second world is the thought world, an unobservable world with thoughts running in people's minds. In striving for equal contact, both children with disabilities and children without disabilities need to have positive experiences and thoughts about their interactions. These positive experiences can stimulate both groups to seek contact with other children the next time they engage in outdoor play. Moreover it can lower the threshold to initiate contact or to even step outside again to play.

### 7.2.3 Feeling world

The feeling world is closely linked to the thought world. This world centres on feelings and emotions. In this case the feelings are mostly shaped by the interactions with other children and their thoughts about these interactions. In the desired situation, children, both with and without disabilities, that have been in contact with each other, feel a sense of belonging. This sense of belonging is fostered by shared positive experiences. It is described as one of the components of fostering the end/goal of striving for openness for participation.

# 8. Design vision

To establish the project focus, all the insights gathered so far are reviewed in this subchapter. Together with Samen Spelen the three posters concluding the Discover phase are discussed, to identify the most interesting and relevant topics. To scope down the project, the most significant, interesting and promising themes are selected from the identified means, obstacles and end/goal from Chapter 7.1. This project scope will guide the formation of the design goal and start of the ideation phase..

## 8.1 Project focus

To establish the project focus, all the gained insights until now are reviewed. Together with the Samen Spelen the three posters concluding the Discover phase are discussed, to identify what they found interesting to work on. To scope down the project, the most significant, interesting and promising themes are selected from the identified means, obstacles and end/goal from Chapter 7.1. This project scope will guide the formation of the design goal and start of the ideation phase.

### 8.1.1 Poster review with 'Samen Spelen'

In a meeting with Samen Spelen, the three conclusion posters were presented for feedback. The posters were printed out and briefly discussed with the team. Part of the team was present and their feedback was consistent. The goal was to determine whether they could identify with the found results and if certain themes stood out to them. This feedback was used to select themes for the project focus. The most important and inspiring themes highlighted by the team were:

- The findings from Poster 1 were the ones they related to the most. It was argued that 'now knowing each other' was an important obstacle, preventing children from playing together.
- Poster 3 was the newest and most inspiring for them. They identified with the negative social-emotional experiences of children with disabilities, revealed during the generative sessions with children. The concept of 'small contact' sparked their interest. They argued that this new direction could serve as a basis for creating positive interactions between children and an opening to the next step of playing together.

### 8.1.2 Themes to continue with

The poster review with Samen Spelen, along with my own perspective, led to the selection of the following goal, means and obstacles to continue with.

#### Goal of openness for participation: Means of facilitating small contact

The most new and interesting theme identified through research is small contact. This concept is categorised as a means that helps in creating openness for children's own way of participating and making contact between children with and without disabilities. Small contact emphasises accessible, safe and natural ways for children to connect, allowing for interactions that do not necessarily require full engagement in play.

This theme is promising, yet much within it can be explored.

#### Obstacle of not knowing each other / unfamiliarity between children

The obstacle of not knowing each other appeared to be a significant barrier to making contact and playing together. This creates a hurdle for contact between a child with a disability and a child without, as well as between children without disabilities and between children with disabilities. However, the unfamiliarity between children with and without disabilities has an extra layer: Children without disabilities often lack experience in playing with children with disabilities. This can result in not knowing how to adjust in contact making and playing together. Last but not least, children with disabilities often attend schools outside their neighbourhoods, resulting in increased unfamiliarity and play with other children from their neighbourhood.

#### Obstacle of playing together and participation: Activities based on speed and motor skills

Activities based on speed and motor skills could hinder equal participation of children with and without disabilities. Especially when there are significant differences in abilities of participating children. By focusing on facilitating small contact between children in this project, I aim to ensure that most children can participate, without feeling left behind due to speed and difficulty of movements.

#### Means as inspiration: Elements of inclusive activities

To achieve the aim of facilitating small contact moments and inclusion in activities for most, inspiration from existing inclusive activities can be taken to develop ideas. Elements from previously observed activities can serve as starting points. Furthermore new inspiration from activities, play objects, or installation can still be discovered.

### 8.1.3 Conclusion

The central goal of facilitating inclusive outdoor play within the social-emotional context remains maintained. For the next steps in this graduation project, the focus is on 'small contact'. This concept evolves around accessible, safe and natural ways of making contact, by letting go of the thought that outdoor play has to be full play. To achieve small contact, I will concentrate on elements that can facilitate small contact, including inspiration from inclusive play activities and excluding activities with speed and mobility as the primary factor for participation.

## 8.2 Design goal

Based on the project focus, a design goal is formed to capture the essence of the design direction in one sentence. This design goal is based on the explanation in the Design for Interaction master's course 'Exploring Interactions', which defines the intended user, intended location or situation and the desired effect (Bendor, 2023). The main elements of the design goal are further elaborated when needed.

My design goal is to facilitate/create **small equal contact** between **children with disabilities and children without disabilities** that do not know each other, at an **outside play area in their neighbourhood**, which **positively influences the participation** of children with a disability

**Equal contact:** With equal contact it is meant that both children with disabilities and children without disabilities are happy and fulfilled with the contact between them. They do not need to participate in the same way, but have to find each other in the contact. At best, this contact will create a feeling of belonging.

**Small contact:** Meaningful moments of interaction are meant, focusing on accessibility, safety and natural ways of contact. These do not have to be full play moments. These small contact moments typically happen within small groups or one-on-one contact. Inspiration can be taken from inclusive play activities.

**Children:** The focus is on children who are hesitant in connecting with peers, for example because of previous negative experiences. The emphasis is on children within the age range of primary school, from 4 to 12 years old, which aligns with the consortium's research project. Important social-emotional development stages, especially between the ages of 5 to 8, are taken into account. Around these ages the last stages of social play, where more social participation occurs, evolve into development in forming friendships, competence and exploration of desires and emotions.

**Disability:** The focus is on children with permanent disabilities as their experience in exclusion in society are more deeper rooted. There is also a focus on children with disabilities who struggle to keep up with outdoor play activities with typically developing children, in terms of speed/mobility or contact for/within participation.

**Play areas:** Play areas can be playgrounds, but also areas outside where play can occur that are not specified as playgrounds.

**Their neighbourhood:** The neighbourhood of the children is chosen as the location, because children with disabilities usually do not have a lot of friends living nearby. This is due to them attending special education further away. The design should stimulate making contact with peers within their neighbourhood, which can lead to new friendships and more outdoor play close to home.

**Participation:** In striving for participation, inclusion is the ultimate goal, see Chapter 1.2. Facilitating small contact needs to contribute to the participation of children with disabilities.

## 8.3 Requirements & wishes

This subchapter outlines the requirements & wishes, derived from the project goal and project focus. Furthermore it illustrates how the requirements & wishes are used in the ideation and conceptualisation phase of the project.

To create a field to design in, a set of requirements and wishes is established. Requirements are based on the design goal and the core of the project focus. Wishes are based on the potential long-term positive effects of the design, as well as 'nice to have's'.

The list of requirements and wishes is reviewed again in the Develop phase. In this phase the importance of the requirements and wishes is considered. Based on this assessment, they are used differently in various stages of the ideation phase to evaluate and select ideas. Some new guidelines are created which helped in selection ideas. Moreover, the value and approach of using this list in the project process was reviewed in this phase. It has led to using this list as guidelines to explore contact making for inclusive play rather than as strict requirements for a design. This approach is used to not select the single best idea, but to facilitate the exploration of small contact within a designated area.

### Requirements

#### Contact

- The solution has to facilitate contact between children with disabilities and children without disabilities.
- The solution has to facilitate contact between children who do not know each other.
- The solution has to lower the first barrier of making contact with other children.
- The solution has to address children that are hesitant in making contact with other children (in outdoor play areas).
- The solution has to focus on making contact between children, not necessarily directly about playing together.

#### Experience

- The solution has to contribute to a positive outdoor play experience for both children with (physical) disabilities and children without disabilities.
- The solution should provide room for interacting and moving at children's own pace.

#### Place of contact

- The (facilitated) contact needs to happen outdoors. or: Children need to be directly stimulated to make contact with other children outdoors.

#### Use

- The designed interaction is not controlled by parents, supervisors or older siblings and children, but can be guided by parents, supervisors or older siblings or children if necessary.
- The designed interaction needs to be understandable in use for most children (depending on the child it can be a different way in use).

### Wishes

#### Future contact

- The interaction with the solution leads to more interaction between the children after use.
- The interaction with the solution leads to children making contact with children they do not know more often.

#### Future outdoor play

- The interaction with the solution leads to more physical outdoor play.
- The interaction with the solution leads to children playing outside more often.

#### Future thoughts & feelings

- The solution contributes to strengthening a positive self-image of children.

#### Contact in general

- The solution needs to facilitate spontaneous contact between children.

#### Use

- The solution can be used and interacted with in different ways, stimulating various forms of contact between children that suit each child.
- The solution remains interesting for children, encouraging more frequent use.

## 8.4 Project focus and goal within the broader context

This subchapter concludes the design vision by zooming out to examine the project focus and goal in the broader context of inclusivity.

The project focus and project goal are part of a broader aim of enhancing inclusive outdoor play for children with disabilities. Zooming out reveals the overarching objective of making society more inclusive for children with disabilities, and for everyone who feels excluded in the current society.

### 8.4.1 Zooming out: project goal in relation to inclusive society

The focus in this social-emotional context of inclusive play is on the first step that could lead to inclusive outdoor play: making contact. Reflecting on the main themes identified by Samen Spelen that influence inclusive outdoor play for children with physical disabilities, see Figure 5 in Chapter 1.1, this project primarily focuses on the themes: the children, making contact. When zooming out further, this graduation project contributes to promoting an inclusive society. See Figure 28 for the different levels of zooming out on the goal.

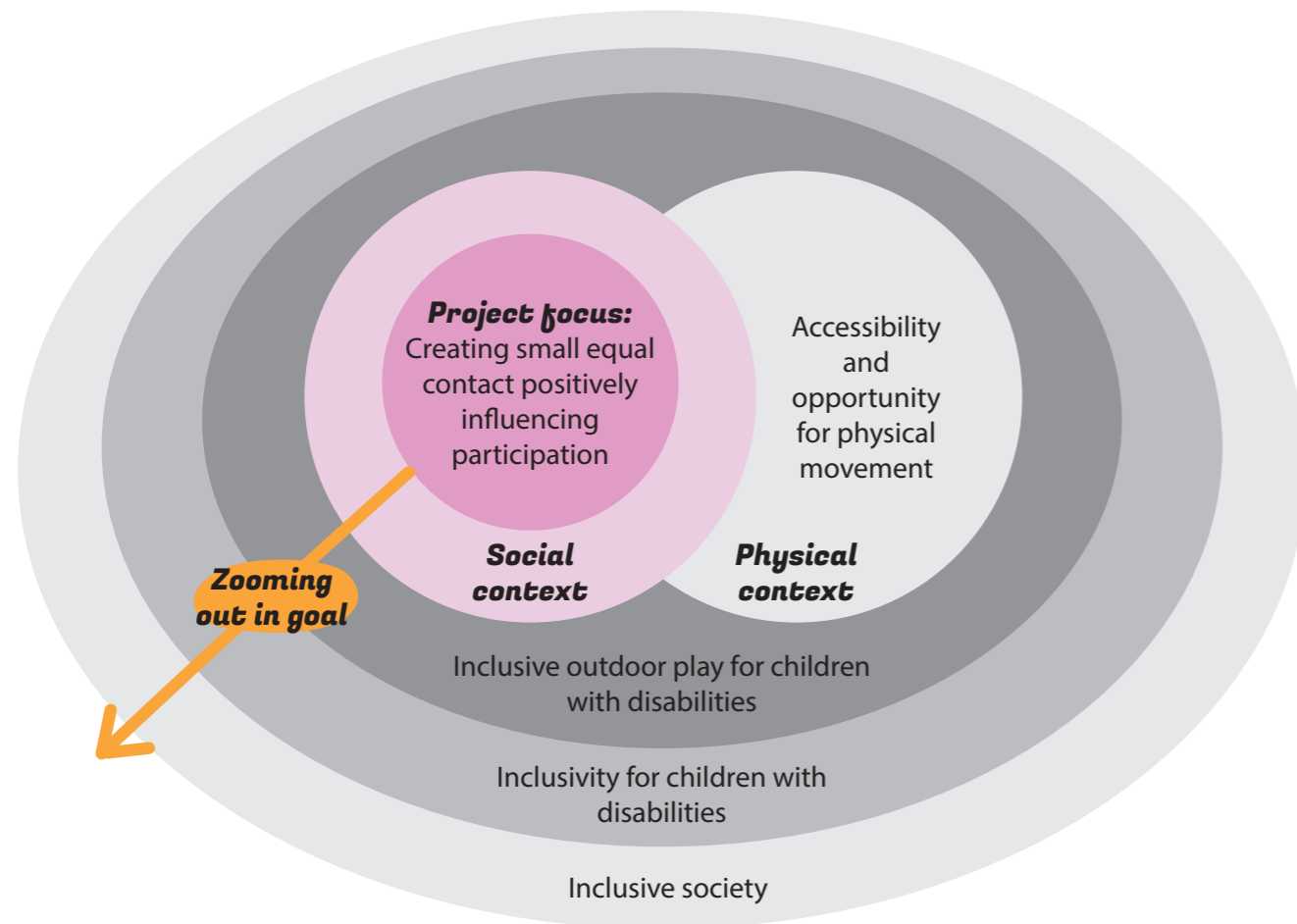


Figure 28. Project focus related to the bigger goals

### 8.4.2 Upward spiral: towards participation in outdoor play

This project centres on a specific part from the positive upward spiral aimed at achieving the broader goal of encouraging children with disabilities to play more outside with peers from their neighbourhood. This involves having social connections and being physically active.

The upward and downward spirals illustrate the possible steps that could lead towards increased or decreased participation in outdoor play, see Figure 29. These steps are based on levels of the worlds (physical, thought, feeling) in the desired situation sketch, see Chapter 7.2. Most of these steps align the wishes, outlined in Chapter 8.3. The spirals, which represent the experiences and actions of children, can fluctuate, moving from the upward to the downward spiral and vice versa.

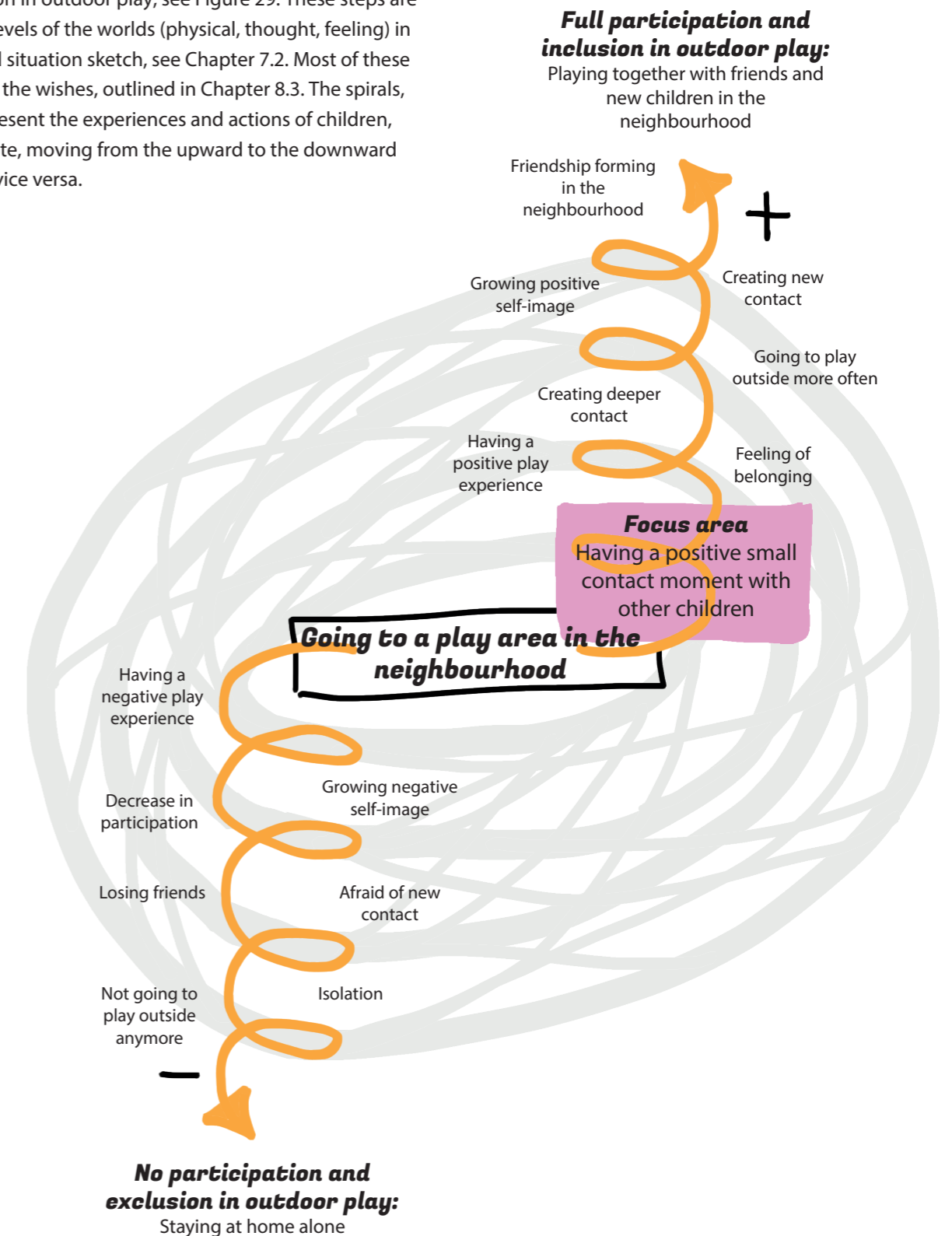


Figure 29. Illustration of how the project focus fits in the upward spiral towards the broader goal



# MAIN TAKEAWAYS

## CH.7

- The three posters concluding the Discover phase are used to **identify means, obstacles and end/goal** in the social-emotional context of inclusive outdoor play. The found overarching end/goal is: striving for openness to and looking for opportunities for a child's own way of participating.
- The identified means, obstacles and end/goal are organised by creating a **desired situation sketch**. The end/goal serves as base, leading to three different layers in the situation sketch: **the physical world, the thought world and the feeling world**. The openness for participation is mostly relates to the physical world, where the means of small contact and inclusive play activities play an important role. Positive thoughts about the experience are reflected in the thought world, while the sense of belonging is presented in the feeling world.

## CH.8

- The identified themes that are chosen as focus are: **openness for participation** (end/goal), facilitating **small contact** (means), **unfamiliarity between children** (obstacle), **activities based on speed and motor skills** (as obstacle), **elements of inclusive activities** (means)
- The focal point of this project is '**small contact**': This small contact focuses on safe, accessible and natural of making contact, that does not necessarily have to be a full play activity. The purpose is to create openness for making contact for different children, stimulating participation in outdoor play.
- The focus on these themes, led to the design goal:

**'My design goal is to facilitate/create small equal contact between children with disabilities and children without disabilities that do not know each other, at an outside play area in their neighbourhood, which positively influences the participation of children with a disability.'**

- Requirements & wishes are created and used as **guidelines** in the next phase Develop for the selection of ideas.
- The goal of facilitating a positive experience for children with disabilities in contact with other children can contribute to the upward spiral towards full participation and inclusion in outdoor. When zooming out, the goal of this project contributes to a more inclusive society.

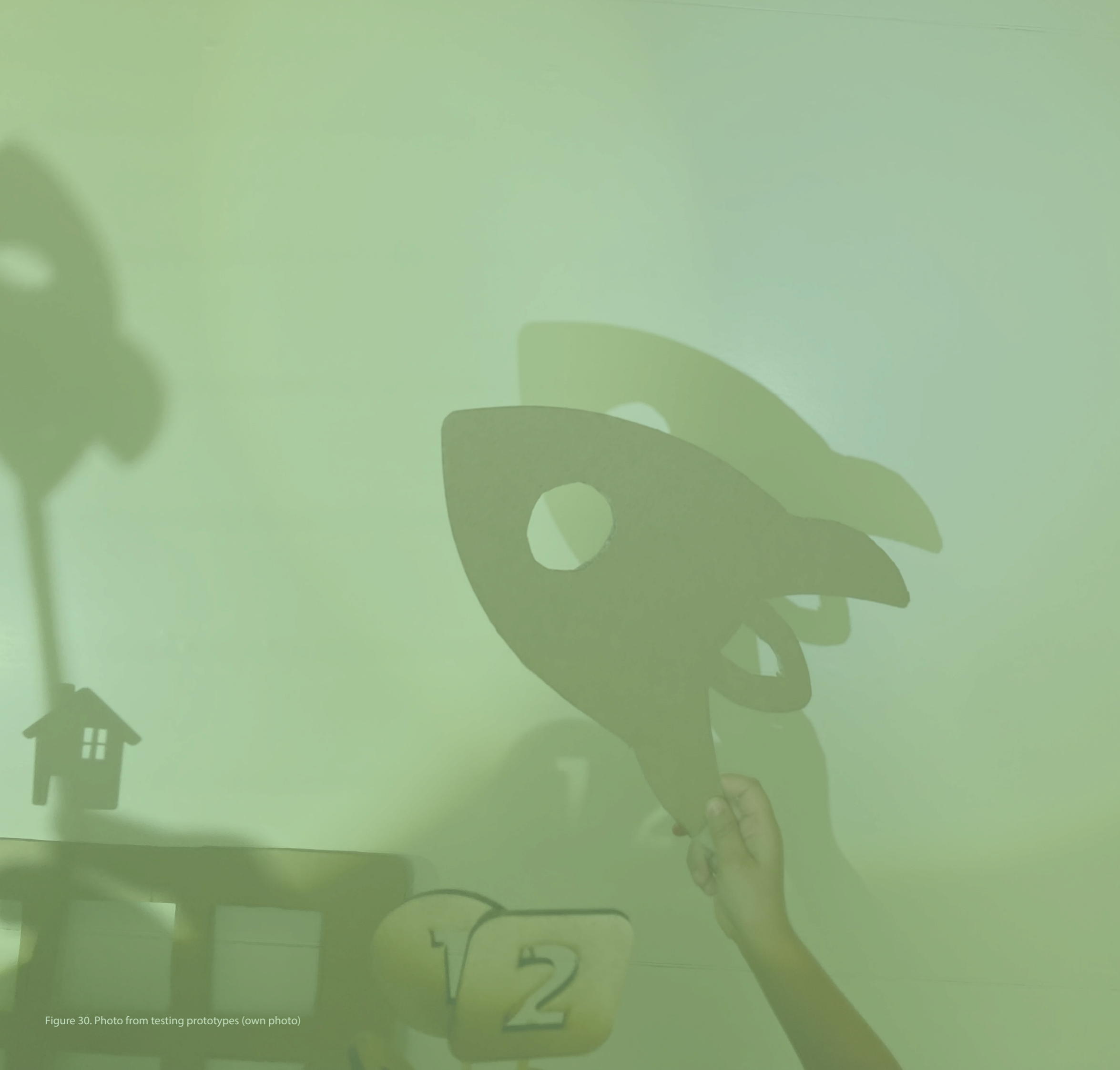


Figure 30. Photo from testing prototypes (own photo)

**DEVELOP**

# CONTENT

## **9. Ideation & Conceptualization**

- 9.1 Brainstorm
- 9.2 From 4 idea directions to 6 ideas
- 9.3 Comparison and selection
- 9.4 Conceptualisation

## **10. User testing & Evaluation**

- 10.1 Prototypes
- 10.2 Method
- 10.3 Analysis of testing
- 10.4 Concepts evaluation with orthopedagogue
- 10.5 Concluding on the concepts

# INTRODUCTION

*The Develop phase focuses on developing ideas.*

*In this phase, the process from ideation to conceptualization to analysing the concepts through user testing, is outlined.*

*The ideation begins with brainstorm sessions, based on conclusions and takeaways from the Define phase. Four ideas directions with six ideas are generated, leading to the development of three concepts.*

*These concepts are compared. The most promising ones are developed into the concepts 'Kijk Kameraden', 'Spelen met Schaduw' en 'Stoepkrijt Ontdekking'.*

*For user testing with children, these concepts are turned into prototypes. By analysing the data through clustering the main themes and applying Parten's social play theory, conclusions are drawn. Additionally the concepts are evaluated by an orthopedagogue*

*The insights from this phase are used in the next phase, Deliver, to create useful information and conclusions to hand over to the client Samen Spelen.*

# RESEARCH AND DESIGN ACTIVITIES

ACTIVITY	PLACE/DATE	GOAL	METHODS	EXTRA INFORMATION
Sprint days commissioned by 'Samen Spelen' team, led by sprint leader outside 'Samen Spelen' team	Hogeschool Utrecht 25/06/2024 27/06/2024 02/07/2024 04/07/2024	Coming up with ideas and prototypes for child therapists to facilitate inclusive outdoor play in the social context.	Variety of methods to dive into insights, come to prototypes for social context and present them.	<b>Type and amount of participants:</b> Around 10 members of 'Samen Spelen' team and experts. <b>Supporting materials:</b> Insights from Samen Spelen, materials to craft, etc <b>Data collection:</b> Initial prototypes, presentation materials, photos and videos, brainstorm, etc.
Brainstorm together with Rosa de Vries & Brainstorm together with peer	TU Delft and online call 18/07/2024	Diverging on brainstormed themes 'Teamwork', 'Sensory activities', 'Grabbing attention - wildly attractive' and 'Small contact'	Presenting themes with brainstormed elements of: existing play activities, interactive installations, metaphors, notes and initial ideas. Brainstorm with participants 1 on 1, create new links and combine into ideas	<b>Type and amount of participants:</b> 3 including me, 1 on 1 brainstorm <b>Materials:</b> Printed and online brainstorm that was already done <b>Data collection:</b> Drawings, written notes, images from internet
Feedback on concept ideas from orthopedagogue Nandine Henry	Online messages 01/08/2024	Getting feedback on ideas from expert	Structured questions asked	<b>Type and amount of participants:</b> 1 orthopedagogue <b>Supporting materials:</b> shared posters of the ideas, list of questions <b>Data collection:</b> typed answers from orthopedagogue
Testing prototypes at Inclusive play day organised by InContact Bijzonder	Playground 'Bouwspeeltuin Voorn' in Utrecht 14/08/2024	Getting to know how concepts would work in context with children	Testing prototypes by observations and small talks	<b>Type and amount of participants:</b> Around 10-15 children, of which none had a visible disability <b>Supporting materials:</b> Prototypes, inviting signs, notebook, extra observer <b>Data collection:</b> Written notes, photos
Testing prototypes at playground in Utrecht	Playground 'De Duizendpoot' in Utrecht 15/08/2024			<b>Type and amount of participants:</b> Around 7 children (of which one had autism) <b>Supporting materials:</b> Prototypes, inviting signs, notebook, extra observer <b>Data collection:</b> Written notes, photos
Testing prototypes at participants house	One of the participants' house 17/08/2024		Testing prototypes by observations and asking questions, with focus on testing 'Stoepkrijt Ontdekking' on the streets	<b>Type and amount of participants:</b> 2 children without disabilities, who are friends of each other <b>Supporting materials:</b> Prototypes, inviting signs, notebook <b>Data collection:</b> Written notes, photos, recorded audio and film
Testing prototypes at Inclusive play day organised by InContactBijzonder	Playground 'de Hoef' in Utrecht 20/08/2024		Testing prototypes by observations and small talks, with focus on testing with children with a disability if present	<b>Type and amount of participants:</b> Around 10 children (of which one wore splints on the legs) <b>Supporting materials:</b> Prototypes, inviting signs, notebook <b>Data collection:</b> written notes, photos
Conversation with Samen Spelen about tested concepts	Hogeschool Utrecht 12/09/2024	Getting insights and their opinion on how to deliver / hand over the concepts and conclusions to 'Samen Spelen'	Presenting and discussing my 3 concepts, insights and conclusions of testing, ideas on how to iterate	<b>Type and amount of participants:</b> With 2 people from the team of 'Samen Spelen' <b>Supporting materials:</b> Online insights of testing, photos of prototypes. <b>Data collection:</b> Written notes

Table 4. Overview most important research and design activities in the Develop phase

# 9. Ideation & Conceptualization

In this chapter, the ideation phase of this graduation project is described. It includes brainstorm sessions on the main takeaways of the Discover and Define phase, the development of six ideas based on different ways of making contact, a comparison of these ideas, and the selection and development into concepts of three ideas.

## Research questions:

### Brainstorm / Creating ideas:

What ideas stimulate (small) contact between children?

What ideas arise from elements from inclusive outdoor play activities?

What ideas are suitable for children that feel limited in participating in outdoor play by speed limit? What ideas are easy and understandable in use?

### Comparing / Evaluating ideas:

What different types of (small) contact could be used in play?

How do these types of (small) contact differ from each other

## 9.1 Brainstorm

This subchapter describes the process, including the approach and methods, used for brainstorming.

The brainstorming phase was a nonlinear process in which methods, inspiration, and ideas were alternated and combined. An overview of the sequential brainstorm sessions is presented in Figure 31. Additional information is provided for each step in this process.

Multiple brainstorming methods were used to enhance idea generation and generate inspiration. The methods used from the Delft Design Guide include: How-Tos (p.175), Analogies & Metaphors (p.161), Brainstorming & Brainwriting (p.167), Braindrawing (p.169) (Van Boeijen, Daalhuizen & Zijlstra, 2020). This led to various sub-ideas and ideas.

1. The design goal and themes of the project focus served as a starting point for ideation. The themes are: the goal of openness for participation, the means of small contact and elements of inclusive play, the obstacles of unfamiliarity between children and activities based on speed and motor skills. Based on these themes, various How-Tos and other questions were generated. For the brainstorms, see Appendix 7.

### Formulated How-Tos and brainstorm questions:

- 'What can small moments of contact be?'
- 'How can you create/make small contact?'
- 'Elements of inclusive outdoor play'
- 'How can you give someone a positive feeling?'
- 'What might different children need?'

The results from these brainstorms led to the selection of four themes for further exploration: 'Teamwork', 'Sensory activities', 'Grabbing attention - wildly attractive' and 'Small contact'. 'Small contact' remained unchanged, as this is the

central focus of this project and allows for further exploration. The other themes concentrated on bringing children together and activities that can facilitate inclusive, small contact. The four themes were then used to draw inspiration from existing play activities, interactive installations and metaphors. See Appendix fixme for the results.

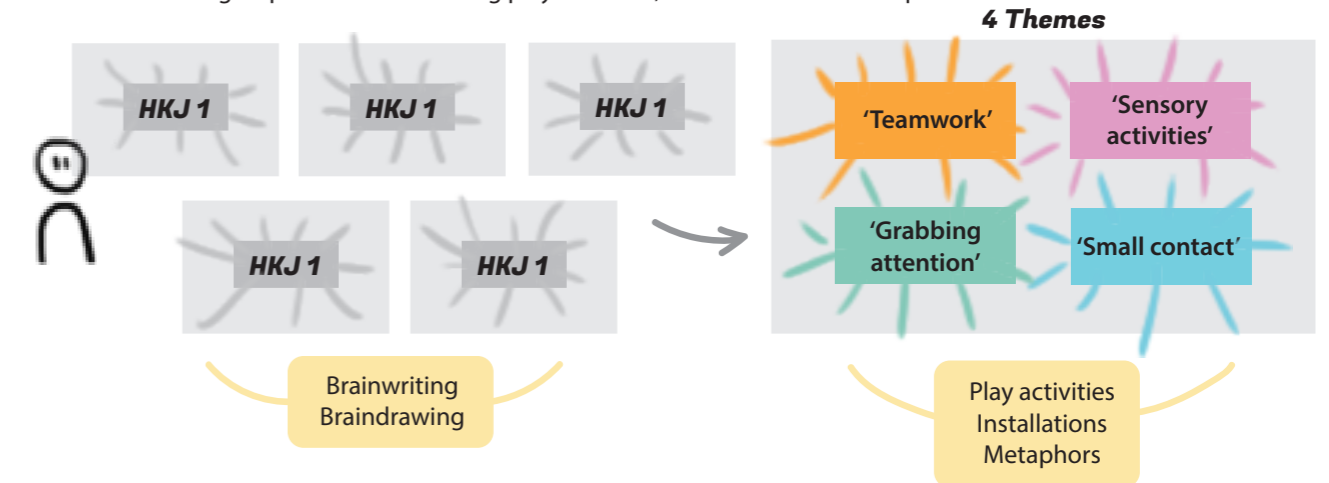
2. To gain a new perspective on the themes and ideas, the process continued with two brainstorm sessions involving others. In the first session with Rosa de Vries, the results of my own brainstorm on the four themes were printed out and discussed. Her new perspective facilitated the creation of connections within the themes and ideas. Comparison and combination of these ideas led to the foundation of four idea directions. This brainstorm can be found in Appendix 8. This foundation of the idea directions and their associated ideas was further explored in a brainstorm with a peer. These results are shown in Appendix 9.

3. The collection of all brainstorms led to four idea directions with six ideas. The four idea directions were: 'From a distance', 'Unexpectedness & Exploring', 'Bumping into each other' and 'Leaving traces for each other'. The six ideas were chosen to provide a selection that offers a variety of ways to facilitate small contact. At this stage, a selection is made based on the requirements regarding 'contact', see Chapter 8.3, as these were deemed most important because they determine the core of the design goal. The process and results from this stage will be further explained in the next subchapter.

1.

### Brainstorm part 1 - On my own

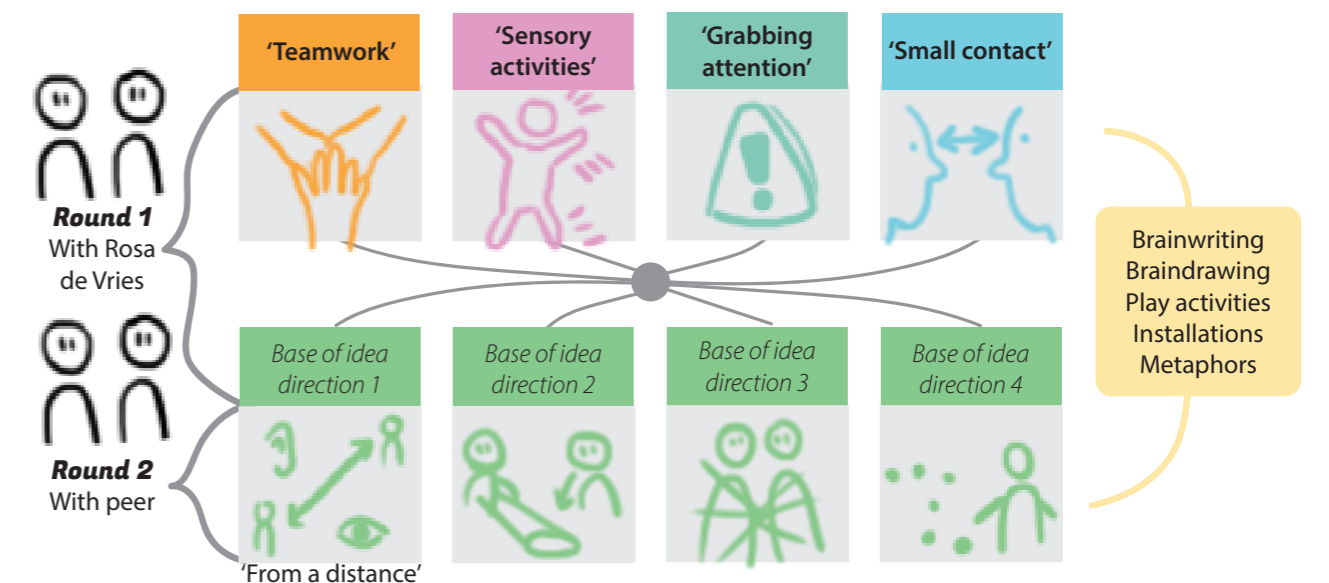
Brainwriting and braindrawing was used to brainstorm on the formed HKJ's and other brainstorm questions. This brainstorm resulted in 4 interesting themes. With these 4 themes an extra brainstorm session was done, drawing inspiration from existing play activities, installations and metaphors.



2.

### Brainstorm part 2 - With others

The 4 themes with it's brainstorm from part 1 were printed. A second brainstorm session was done with others, using the same techniques as before. Round 1 resulted in roughly sketched idea directions, which were used in round 2 as basis for the last brainstorm.



3.

### Final outcomes - On my own

The insights from the brainstorms were collected, combined, evaluated and developed. This led to 4 idea directions with 6 ideas.

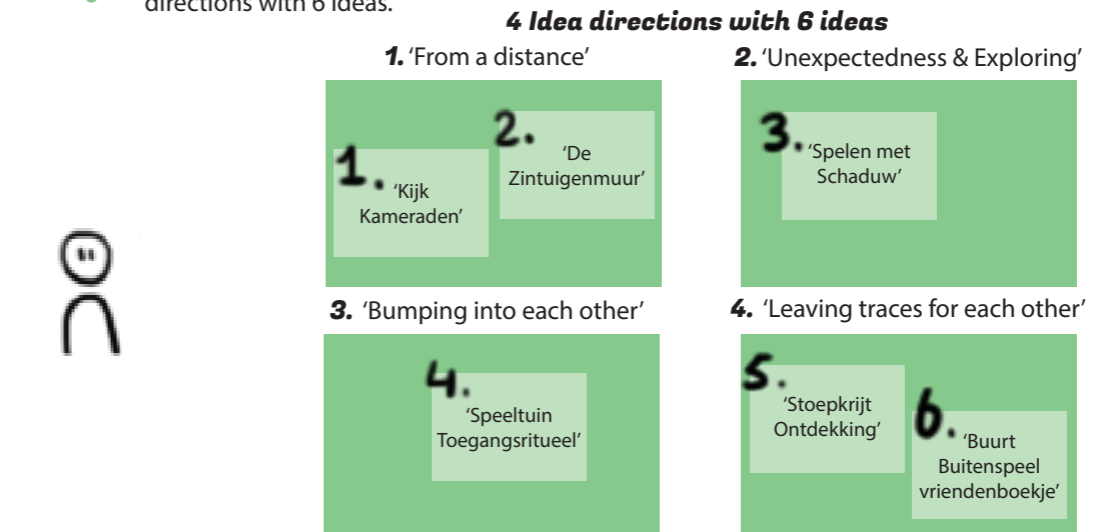


Figure 31. Overview of the brainstorm process

## 9.2 From 4 idea directions to 6 ideas

This subchapter discusses the four idea directions and selected ideas that emerged from the brainstorm sessions.

### 9.2.1 4 idea directions

Based on combining outcomes of the ideation phase, four idea directions emerged. These directions differ in how they bring children together, facilitate small contact and stimulate participation. The four idea directions, along with the main elements from brainstorming, can be found in Figures 32 and 33. The full idea directions are detailed in Appendix 10.

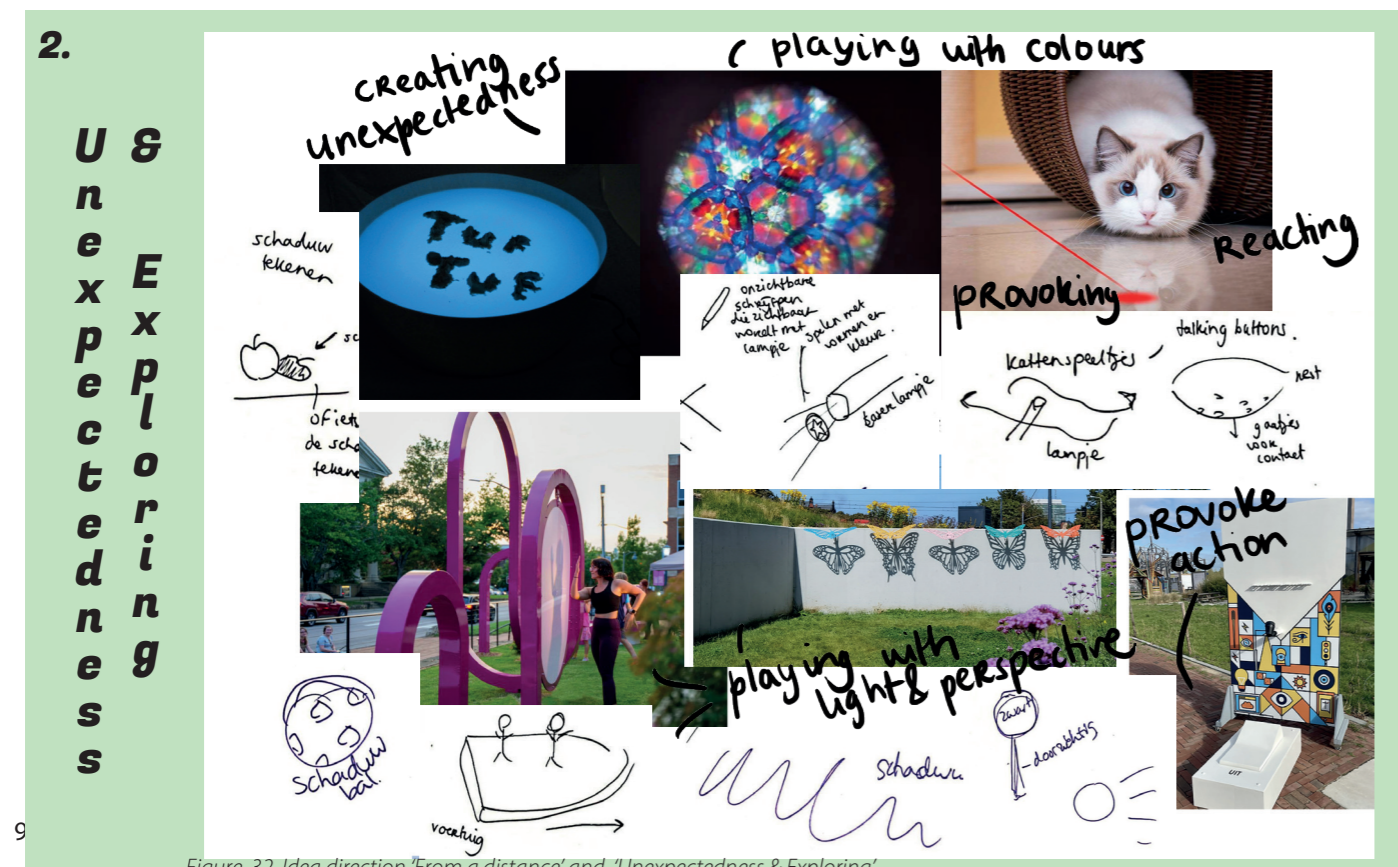


Figure 32. Idea direction 'From a distance' and 'Unexpectedness & Exploring'



Figure 33. Idea direction 'Bumping into each other' and 'Leaving traces for each other'

## 9.2.2 6 ideas

Within the four directions, six ideas have been selected. The ideas, each relating to one of the idea directions, are described.

### Ideas 'Kijk Kameraden' and 'De Zintuigenmuur'

In the direction 'From a distance' two ideas emerged: 'Kijk Kameraden', Figure 34 and 'De Zintuigenmuur', Figure 35. The essence of 'Kijk Kameraden' lies in making small contact based on the sense of sight, specifically by making eye contact through mirrors or viewing holes. Children can hide and carefully observe or search for each other from a distance. In 'De Zintuigenmuur' children can work together, while maintaining distance because of the wall between them. Teamwork games could focus on communication through talking or feeling, ultimately leading to a surprise of seeing each other.

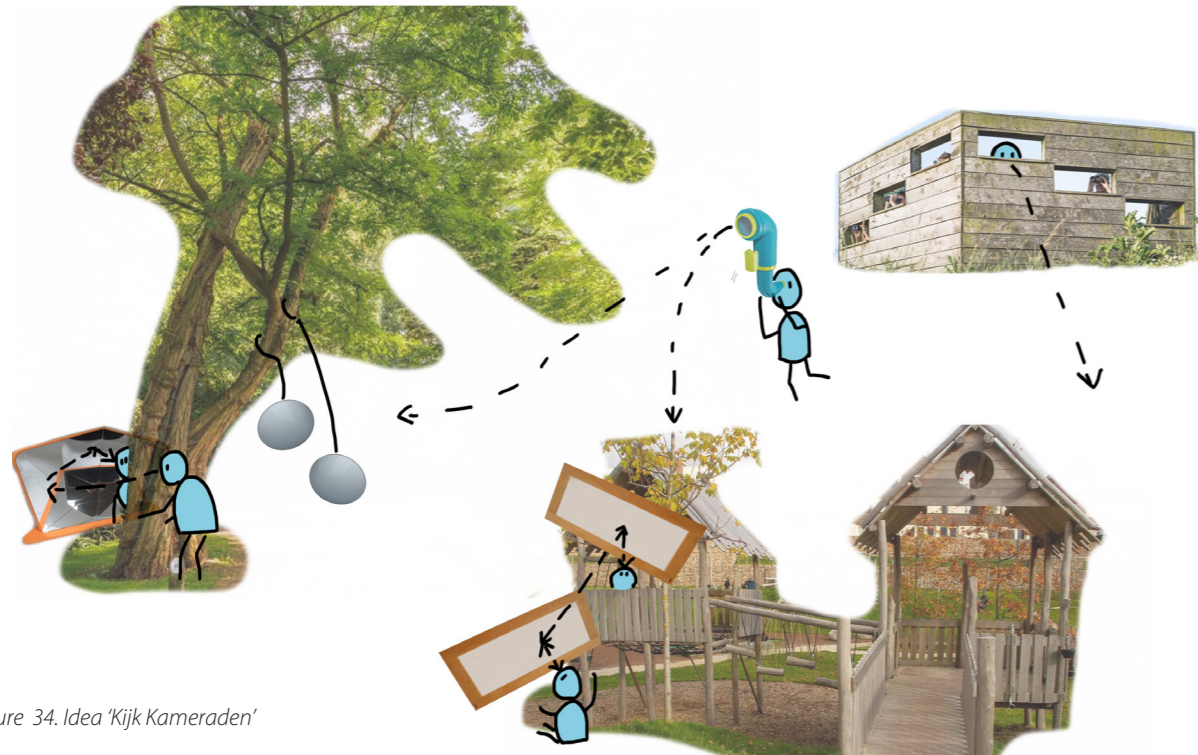


Figure 34. Idea 'Kijk Kameraden'

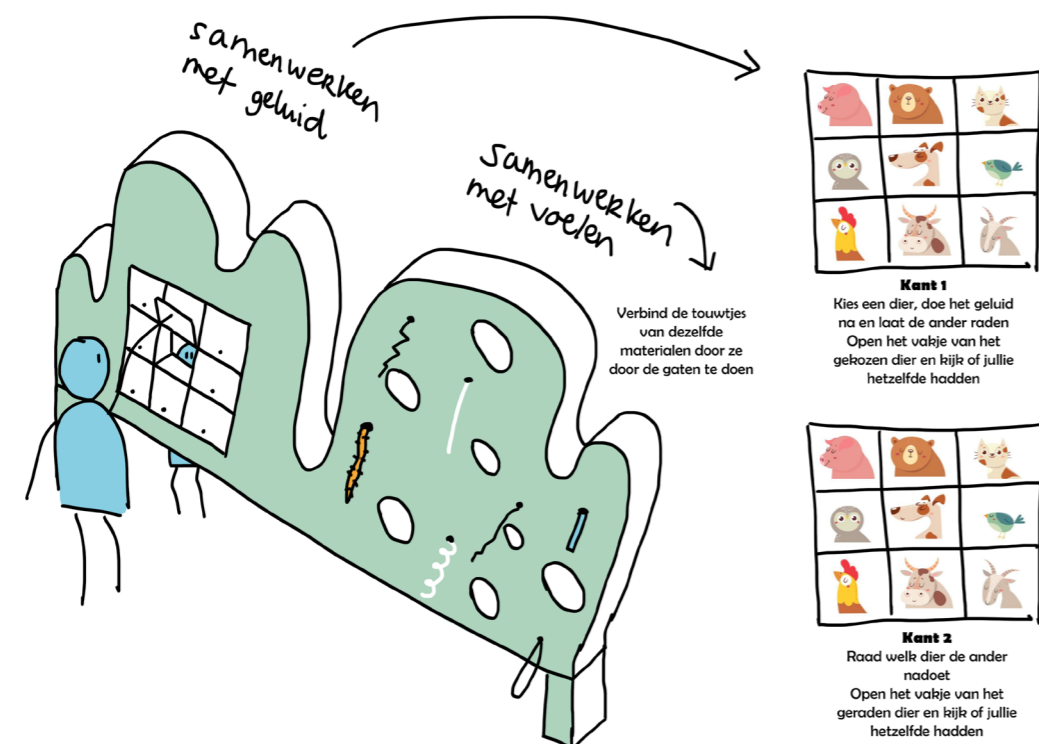


Figure 35. Idea 'De Zintuigenmuur'

### Idea 'Spelen met Schaduw'

'Unexpectedness & exploring' resulted in one idea: 'Spelen met Schaduw', Figure 36. This idea revolves around creating, exploring and discovering with shadows. Children could react to each other or provoke each other by creating unexpected shadows. discovering with shadows. Children could react to each other or provoke each other with creating unexpected

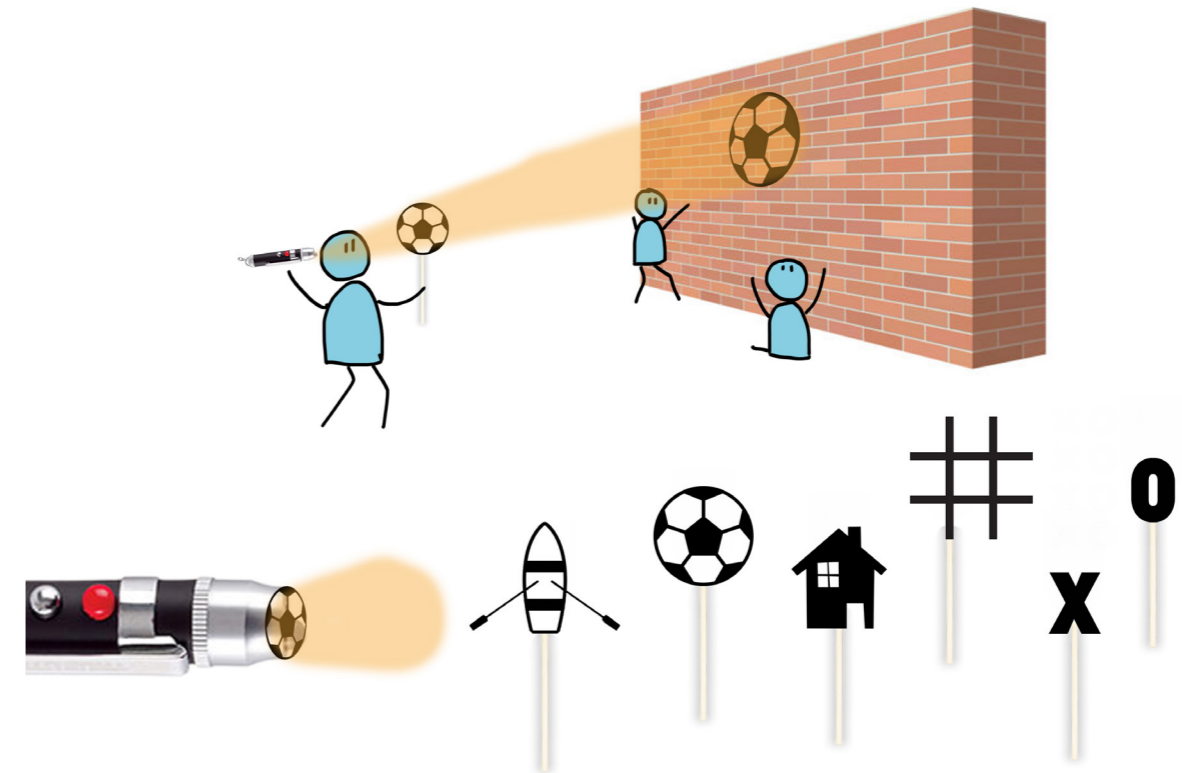


Figure 36. Idea 'Spelen met Schaduw'

### Idea 'Speeltuin Toegangsritueel'

From the idea direction 'Bumping into each other' the idea of 'Speeltuin Toegangsritueel', Figure 37 emerged. This idea focuses on physical encounters by moving through the same, partly enclosed, space. Furthermore, this object facilitates a transitional phase between playing at the playground with others and home, where reflection is stimulated.

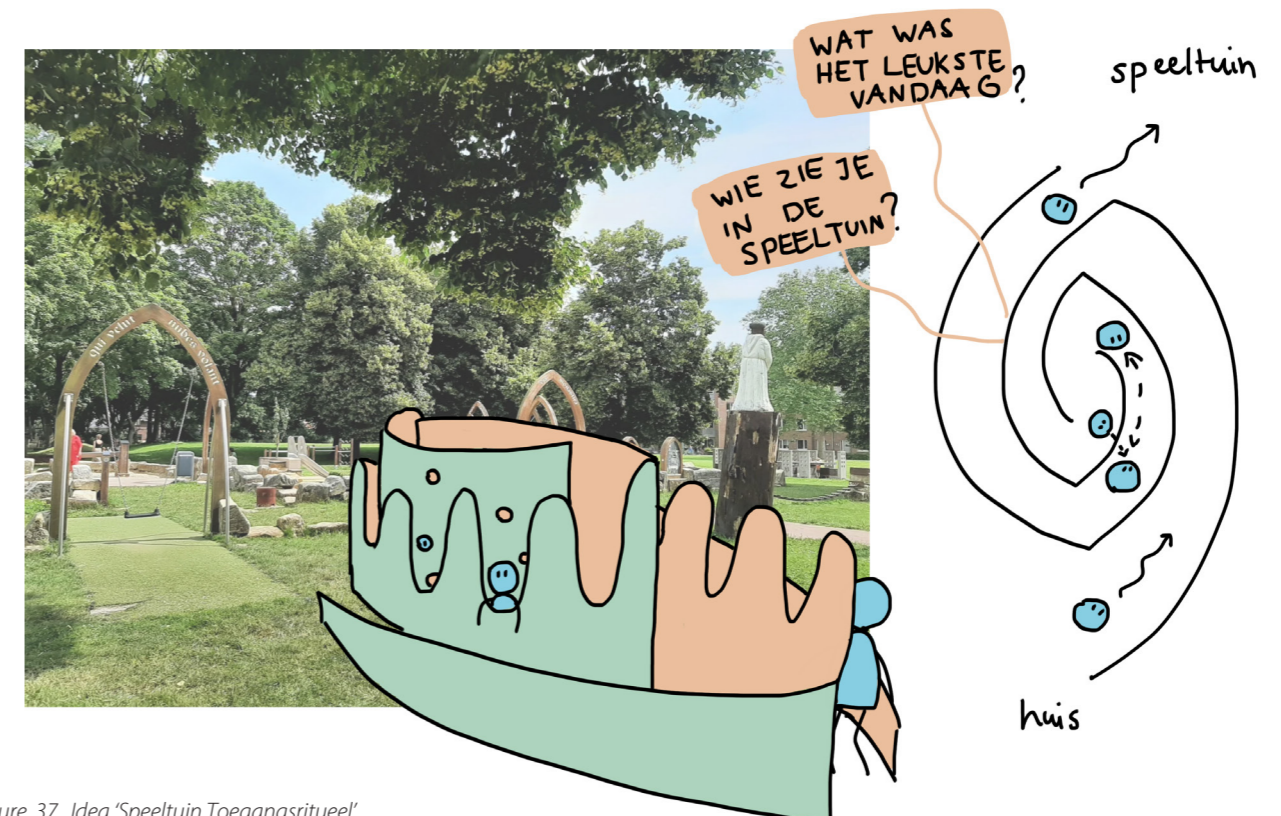


Figure 37. Idea 'Speeltuin Toegangsritueel'

### Ideas 'Stoepkrijt Ontdekking' and 'Buurt Buitenspeel vriendenboekje'

The ideas 'Stoepkrijt Ontdekking', Figure 38 and 'Buurt Buitenspeel vriendenboekje', Figure 39 originate from the category 'Leaving traces for each other'. The first idea focuses on creating routes, drawings and information on the pavement in the neighbourhood using chalk. This chalk leaves messages for other children walking in the neighbourhood, teaching them about the neighbourhood, play, and peers. 'Buurt Buitenspeel vriendenboekje' is a friendship book that circulates among children in the neighbourhood. In these books they can share information about themselves, the neighbourhood and playing outside. Through this book, children can learn who lives nearby and get inspired by outside play stories from others.

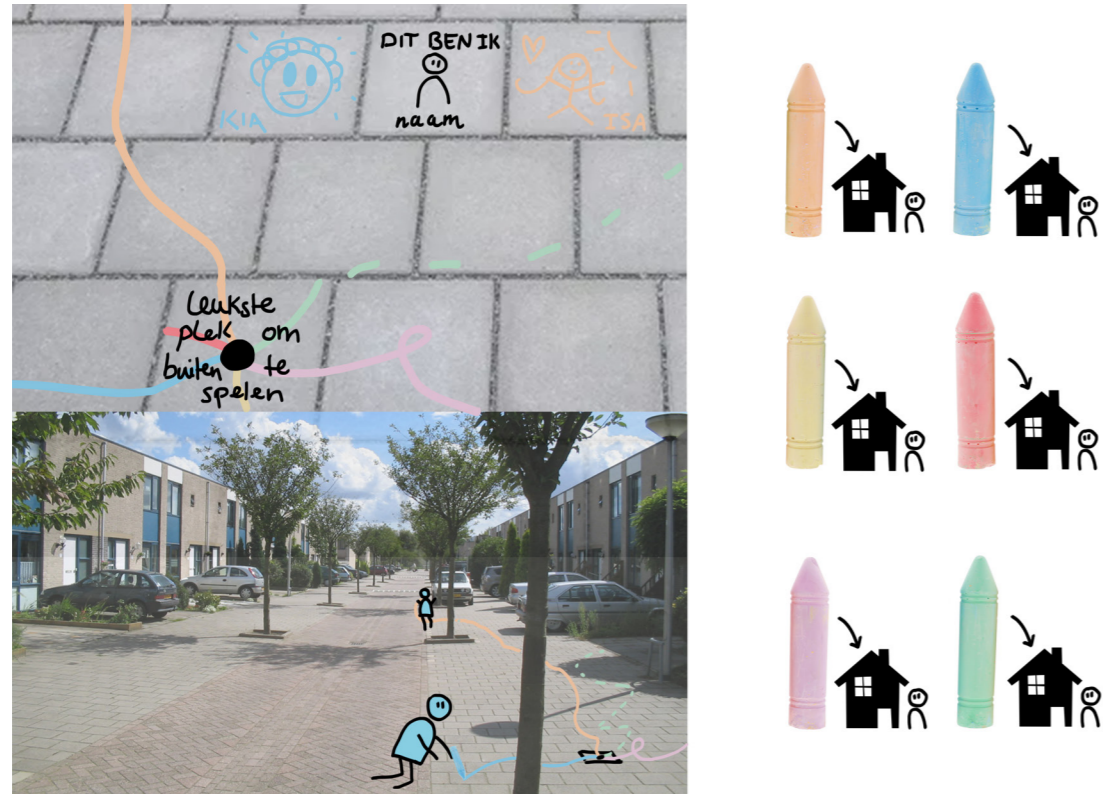


Figure 38: Idea 'Stoepkrijt Ontdekking'

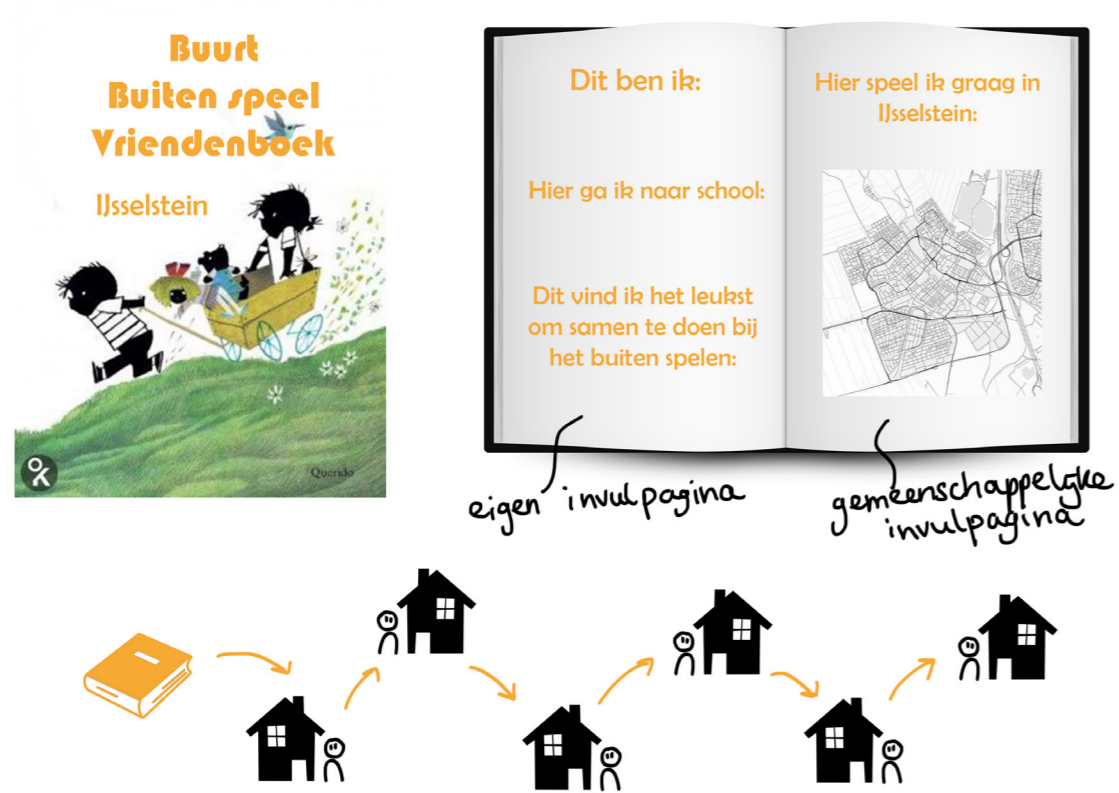


Figure 39: Idea 'Buurt Buitenspeel Vriendenboekje'



Figure 40. Photo from National outdoor play day at 'Kloosterplantsoen' with prototype from CMD students (photo from Samen Spelen)



## 9.3 Comparison and selection

This subchapter compares the six generated concept ideas across various levels, including the small contact they evoke. A selection of three ideas is made using the PMI method, taking into account the requirements and wishes

### 9.3.1 Comparison

The six concept ideas generated during the ideation process are compared based on their intended location, the objects used, and the actions they invoke. The comparison further emphasises the differences in how each object could facilitate contact between children. This is split up in the objects or actions that could stimulate contact and what kind of contact this could be. See Figure 41 for the comparison across these four levels. The three selected concept ideas 'Kijk Kameraden', 'Spelen met Schaduw' and 'Stoepkrijt Ontdekking' are colour coded.

The PMI method from the Delft Design Guide (p.183) is used to select three concept ideas for further elaboration, prototyping and testing with children. This method is used for a comparison of the concept ideas by examining their positive (plus), negative (minus), and interesting aspects. (Van Boeijen, Daalhuizen & Zijlstra, 2020). For the results of usage of the PMI method see Appendix 11.

The three concepts 'Kijk Kameraden', 'Spelen met Schaduw' and 'Stoepkrijt Ontdekking' are selected based on their dynamic elements, which provide accessible ways for various forms and moments of contact. Furthermore the three selected concepts differ in types of small contact, which can be further explored.

The idea 'Zintuigenmuur' and 'Speeltuon Toegangsritueel' did not make the cut, as these objects are static and do not allow for stimulating various possible moments of small contact. Furthermore these objects are challenging to implement in inclusive play activities.

The idea 'Buurt Buitenspeel vriendenboekje' was also excluded, as the small contact of this idea does not occur outdoors and does not directly stimulate children to go outdoors to meet other children.

### 9.3.1 Selection

When using the PMI method, the design goal and requirements & wishes are taken into account. As explained in chapter 8.3, the requirements serve more as guidelines. By comparing the idea concepts using the PMI method, two extra requirements are generated. One focuses on the stimulation of various possible moments of small contact. The other requirement addresses practical implementations, ensuring that facilitating small contact is accessible for people to integrate in inclusive play activities.

#### New requirements:

- The solution has to stimulate various possible moments of small contact between children.
- The solution has to be accessible to be implemented in inclusive play activities.

	<b>'Kijk Kameraden'</b>	<b>'De Zintuigenmuur'</b>	<b>'Spelen met Schaduw'</b>	<b>'Speeltuon toegangsritueel'</b>	<b>'Stoepkrijt Ontdekking'</b>	<b>'Buurt Buitenspeel vriendenboekje'</b>
<b>Location of interaction</b>	Playground (could also be in the neighbourhood)	Playground	Playground, but also in the neighbourhood or possibly at home	Playground (along the way from home to the playground)	Playground (along the way from home to the playground)	At home (and passing it on to the neighbours in the neighbourhood)
<b>Object that the children use / triggers action</b>	Mirrors and looking holes, periscopes	Interaction wall	Lights and figures	Maze	Chalk and exercises on the pavement	The friendship booklet
<b>'Thing / action' that produces the interaction</b>	Reflections of children	The elements that can be moved (shutters, different materials)	Shadows from the figures (and children their own shadows)	Shared pathways with routes from both sides, walls of different heights, written questions	Drawn and written chalk & routes on the pavement	Filled in sheets in the shared booklet (individual and collective pages)
<b>'Kind of' interaction between children</b>	Eye contact (hiding)	Verbal communication (talking and making sounds), guessing, eye contact, passing on	Acting on created shadows (verbal / non-verbal)	Bumping into each other, eye contact, reacting to / on things and people seen at the playground	Responding to drawn illustrations & routes and working together on them (when organised)	Inspire and respond to each other, get to know each other through the booklet, passing it on

Figure 41. Comparison of 6 ideas on contact

## 9.4 Conceptualisation

This subchapter presents the conceptualisation of the three selected ideas.

The conceptualisation of the three selected ideas was done to develop them into concepts, to create material for communication with others and to provide a foundation for evaluating, prototyping and testing. For the conceptualisation of 'Kijk Kameraden' see Figure 42, for 'Spelen met Schaduw' figure 43, and for 'Stoepkrijt Ontdekking' Figure 44.

### Kijk Kameraden

With Kijk Kameraden, children can make (eye) contact by playing with reflections using mirrors

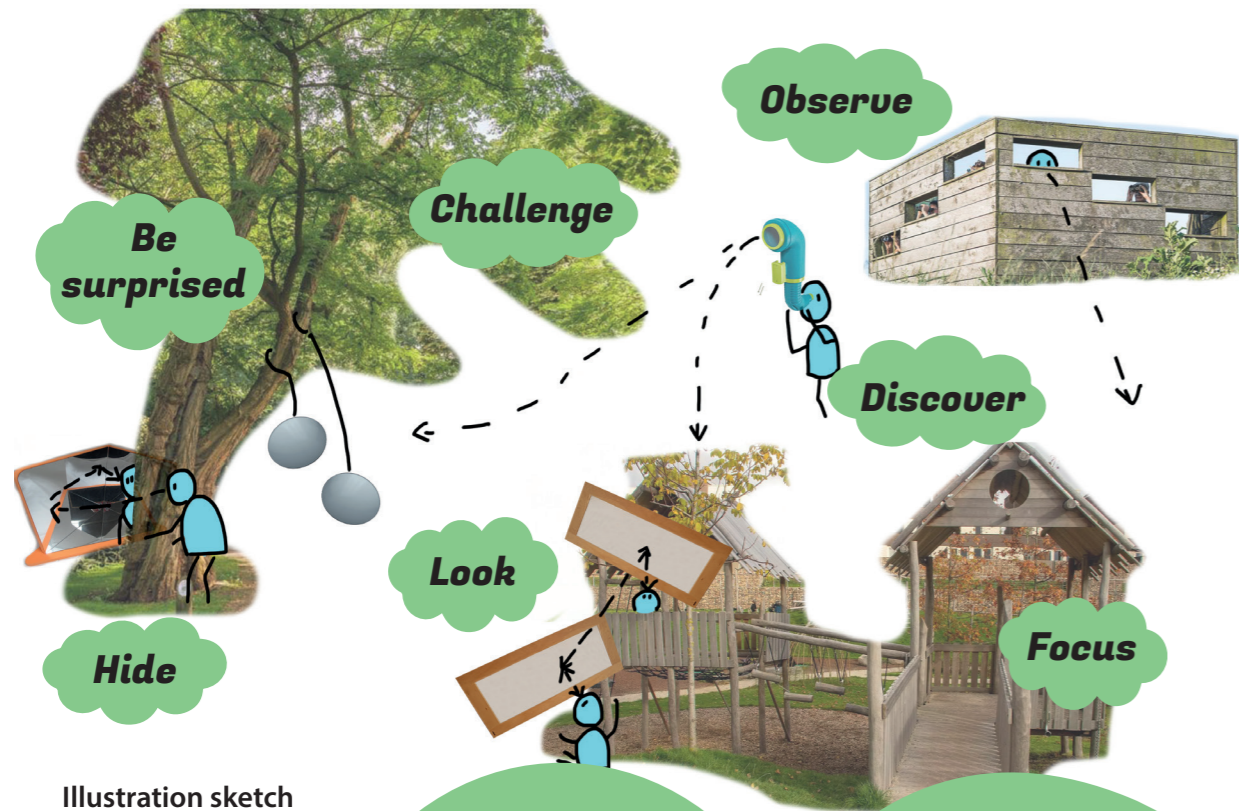


Illustration sketch

#### Functionality

Playing with the reflections can be done from different places where you normally wouldn't be able to see each other. For example, from behind a tree, from a play structure, or simply by standing with your backs to each other.

Mirrors can be small or large and can be moved around. They could be connected in various ways or be movable, allowing for different kinds of reflections to occur.

#### Contact

The mirrors can lead to hiding from each other and challenging each other. Eye contact plays a significant role in this. But it can also lead to going on a solo exploration and possibly bumping into someone. Children can be surprised by unexpected reflections and perspectives, and can play with who and what they can see. As described, playing with the mirrors can be done freely, fixed in one place, or moving around the playground. It's not about speed, but more about playfulness and experimentation. Additionally, more structured play with the mirrors can also happen, for example, by inventing a new way to play hide-and-seek.

Figure 42. Concept 'Kijk Kameraden'

### Spelen met Schaduw

With Playing with Shadows, children can play with and respond to created shadows using the sun or a lamp as the light source

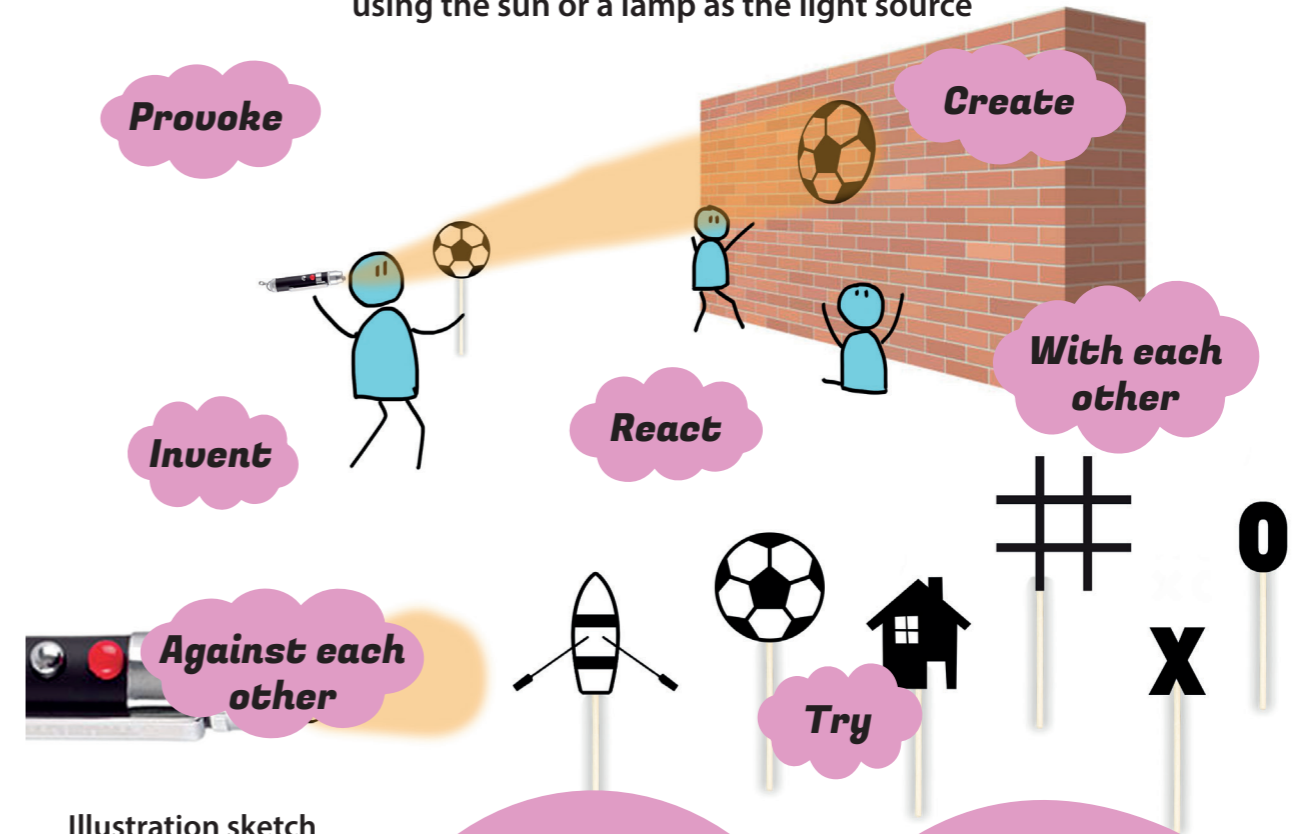


Illustration sketch

#### Functionality

With various 2D objects and a light source, which depends on the weather, children can create shadows on surfaces. Shadows can be projected in different locations depending on the direction of the light source, and they can vary in size and direction based on the distances and angles between the light source, object, and ground.

#### Contact

There is a variety of objects, ranging from more abstract to more concrete. The different objects encourage free play, as well as playing existing games with rules, such as Tic-Tac-Toe, or inventing new games by children. Additionally, new objects for projection could be created or new shadow shapes from existing objects. With multiple children, multiple shadows can also be made. Children can respond to the shadows created by others or provoke other children with their created shadows, without needing to verbally ask to join in. They can play against or with each other.

Figure 43. Concept 'Spelen met Schaduw'

# 10. User testing & Evaluation

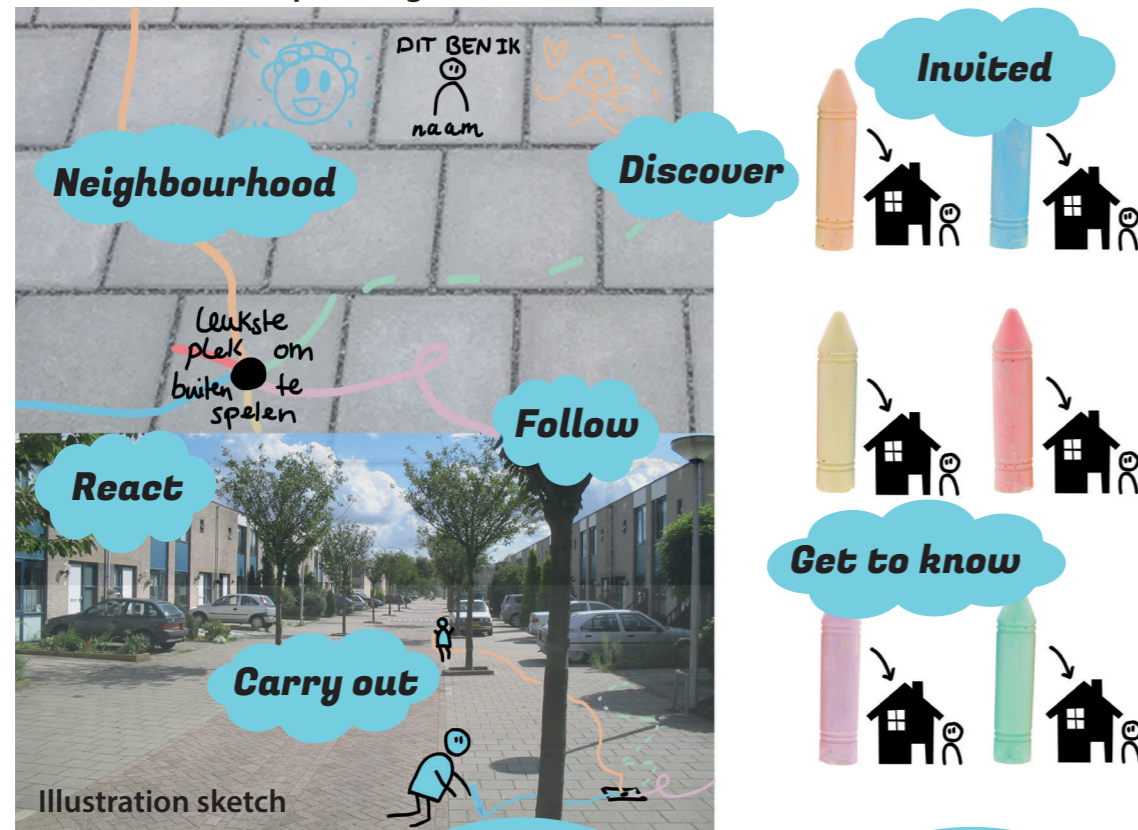
The three before selected concepts are developed into prototypes to be tested with children in context. This testing focuses on what type of small contact occurs when using the prototype, what elements facilitate this contact and how the contact was established. Insights from observations are obtained through clustering and analysed using Parten's theory of social play categories. Additionally, feedback on the concepts is obtained from an orthopedagogue. The chapter ends with a conclusion on all three concepts.

## Research questions:

- What do children instinctively do with the prototypes when presenting?
- What kind of contact between children occurs when using the prototype?
- How do children come in contact with the prototype?
- Between whom does contact arise when using the prototype?
- Is there a difference in usage between different prototypes within the same concept?
- Where is the prototype used?

## Stoepkrijt Ontdekking

With Stoeptegels Ontdekking children are gathered to carry out assignments in their neighborhood that help them get to know each other and the area



### Functionality

Sidewalk tiles in the neighborhood are replaced with assignment tiles that involve getting to know each other and discovering outdoor play areas and activities in the neighborhood. Children receive chalk at home as an invitation, which they can use to complete the tasks. Chalk can be provided in a specific color, allowing them to recognize who drew or wrote what by the color. The tasks can include information about who the children are, where they live, where fun play areas are, and what they enjoy doing outside.

### Contact

Children can perform the assignment tasks with chalk, respond to each other's answers, and follow each other's responses and routes. This can lead to better knowledge of the neighborhood, the children in the area, outdoor play spots, and activities. They can learn from each other and inspire one another. If the tasks are carried out at a scheduled time in the neighborhood, children are encouraged to work alongside each other, which can create direct contact.

## 10.1 Prototypes

This subchapter describes the creation of the prototypes.

For user testing with children, the three chosen concepts were transformed into testable prototypes. Each of the prototypes is described below:

- For 'Kijk Kameraden' different configurations of multiple acrylic mirrors were made. These included combinations of mirrors facing inwards and outwards, larger and smaller mirrors, and one manually adjustable configuration. This provides a variety of options for play. See Figure 45, 46 & 47 for the prototypes and use of prototypes during testing.
- For 'Spelen met Schaduw' a variety of 2D objects were created in different sizes. The variety of objects included recognizable play items, such as tennis rackets, general items like a house, and ambiguous shapes. The smaller objects were laser cut and put on a stick. The larger objects were cut out of cardboard by hand. A few flashlights were collected to serve as light sources, in addition to using the sunlight. See Figure 48, 49 & 50 for prototypes and testing.
- For 'Stoepkrijt Ontdekking' several assignments had been developed, ranging from route assignments to 'who are you' assignments, in the size of a paving stone. For testing, these assignments were written down on the ground with chalk or were told to the children. For the prototypes, test setup with chalk and one of the results of testing, see Figure 51, 52 & 53.

The prototypes needed to be safe: sharp edges were sanded down and no small parts that could be swallowed were used. Furthermore, attention was being paid during testing, to ensure that children did not engage in harmful activities.

## 10.2 Method of testing

This subchapter illustrates the method of user testing with children and collecting data.

For conducting user tests with children, multiple organizations and institutions were contacted. Ultimately, two inclusive play activities from 'InContact Bijzonder', and a playground from 'Dock', were open for testing. Additionally, a test was planned with two children at one of their houses. For extra information on these testing activities, see Table 4 at page 86-87.

When conducting user tests, an open approach was taken. This was done, in order to observe how children would instinctively interact with the objects, and specifically if and how they use the objects to have contact with others. If children did not use the objects simply by seeing them, or if they appeared hesitant to start, a brief introduction was given.

The two methods of data collection that were used are described on the next page.

Figure 44. Concept 'Stoepkrijt Ontdekking'

**Data collection:**

- Before testing a **checklist of potential situations** based on hypotheses was created. This was done in order to help keep track of what was happening during testing, without being distracted by observing. Furthermore hypothesis for each concept were drawn. The checklist and hypothesis can be found in Appendix 12.
- Data was collected by **sketching and writing down the observed situations**. These observational sketches can be found in Appendix 13. When possible, this was done during the observations; if not, short keywords were noted for elaboration after the observations. During the first two testing sessions, a second observer was engaged in case facilitating would make observing no longer possible for the first observer.



Figure 45. Prototypes of 'Kijk Kameraden'

Figure 46. 'Kijk Kameraden' during observations

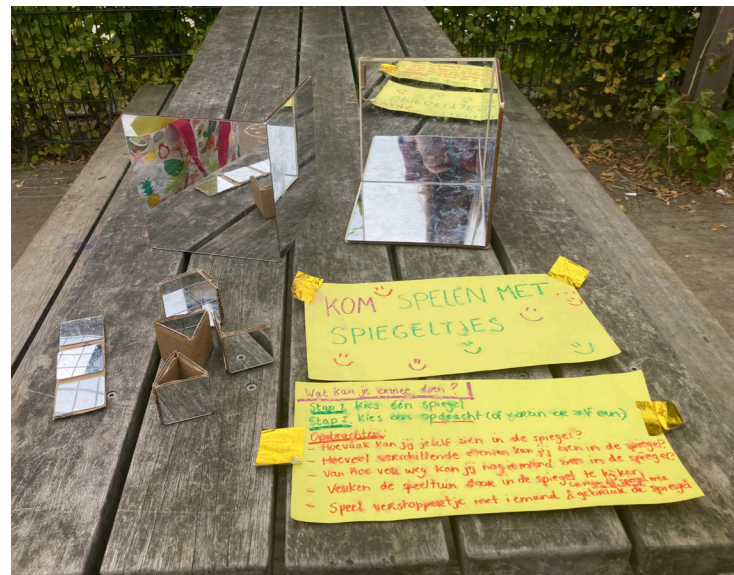


Figure 47. Set-up of 'Kijk Kameraden' at one of the playgrounds



Figure 48. Small prototypes of 'Spelen met Schaduw'



Figure 49. Set-up of small and big objects from 'Spelen met Schaduw'

Figure 50. 'Spelen met Schaduw' during observations at one of the playgrounds



Figure 51. Prototypes of tiles for 'Stoepkrijt Ontdekking'



Figure 52. Testing 'Stoepkrijt Ontdekking' at one of the playgrounds



Figure 53. Test outcome, when the assignment of 'Stoepkrijt Ontdekking' was told to children

## 10.3 Analysis of testing

This subchapter describes how the results from testing are analysed using the method of clustering and using Parten's social play theory. The results of this analysis are integrated in the conclusions on the concepts in Chapter 10.5.

After testing and data collection, the observational drawings with annotations and scenarios for each concept were gathered for analysis. The first layer of analysis involves clustering all the insights into main themes and relating sub-themes. A second layer of analysis focuses on different ways of playing together and having contact, through the use of Parten's social play framework.

### 10.3.1 Analysis by clustering

The observational drawings, along with annotations and written observations, are clustered with post-its in an online environment. For each concept, post-its were grouped into main insights and related sub-themes. The clusters for all three concepts can be found in Appendix 14.

#### Unoccupied play

#### Solitary play

#### Onlooker play

a child observes others engaging in play without joining in

#### Parallel play

children play with the same objects, side by side, but without communicating

#### Associative play

children play with the same objects and have short interactions, like exchanging play objects, but without a shared goal

#### Cooperative play

children play together with the same objects and have interactions with each other to reach a shared goal

Figure 53. the six social play categories

### 10.3.1 Analysis by Parten's social play theory

To analyse different types of contact between children and playing together, the theory of Parten's hierarchy of social play categories is used as a foundation. Parten's theory presents a hierarchical ladder for the development of social play among toddlers and preschoolers. This theory is already briefly introduced in Chapter 4.2.

#### Categories of social play

In her study she found six different categories of social play or social participation, which increase in terms of sociality: unoccupied play, solitary play, onlooker play, parallel play, associative play and cooperative play (Ruth, 2023; Laat ze maar lekker spelen, 2017). In Figure 53, the six play categories are illustrated, with explaining the last four, which involve a type of social participation.

#### Play states

These different types of play originated as stages of play that young children experience during their development, where a shift occurs from solitary play to social play. However, subsequent research, such as that conducted by Bakeman and Brownlee (1980), has reframed these categories as play states instead of play stages. In this reframed theory shifts between categories can occur in minutes rather than over years. Additionally, parallel play could be seen as a play state that can trigger or lead to associative and cooperative play, thereby creating more opportunities for socialisation (Bakeman & Brownlee, 1980).

#### Identifying small contact

In analysing the concepts of social play theory, the six play stages are viewed as play states. The identified themes in the clustering analysis were used to identify which social play states were present in each concept. These findings were further unravelled by identifying what themes involved small contact and what elements of these themes facilitated this small contact. The analysis based on Parten's social play theory can be found in Appendix 15.

## 10.4 Concepts evaluation with orthopedagogue

This subchapter presents the feedback from orthopedagogue Nandine Henry on the three concepts. This feedback, along with the results from user testing, is used to draw conclusions about the concepts in Chapter 10.5.

Besides user testing with children, the three concepts are evaluated with orthopedagogue Nandine Henry, who is involved in the Samen Spelen research project. An interview on the formation of self-image had previously been conducted with her. Posters on the concepts and a list of questions were prepared for feedback. These posters and questions can be found in Appendix 16.

#### Learning points:

- 'Kijk Kameraden' could provide an exciting and challenging way for children to meet, without the need for verbal communication. The functioning of the mirrors could intrigue them.
- 'Spelen met Schaduw' could encourage positive creative actions and spontaneous contact. Additionally, onlooker play may occur, which could facilitate accessible play, but also lead to unequal contact.
- The two-handed activity of controlling a flashlight and an object for creating shadows in 'Spelen met Schaduw', could be challenging for children with motor disabilities.
- Drawing routes on the ground in 'Stoepkrijt Ontdekking' is not possible for everyone, particularly for children in a wheelchair or children with motor disabilities. Furthermore, it could be difficult for children who cannot read.

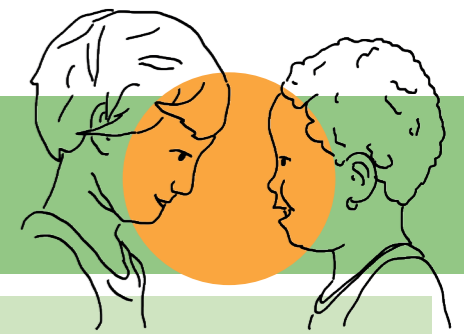
These learning points are considered in the next subchapter, concluding on the three concepts, by comparing them with the insights gained from user testing and incorporating them into the limitations.

## 10.5 Concluding on the concepts

This subchapter provides conclusions on all three concepts, based on insights from user testing and the evaluation with the orthopedagogue.

The general conclusions from the concepts include the themes that are discovered in the analysis of the user testing. Additionally conclusions on small contact are presented, divided into the discovered main theme and elements. The limitations are discussed, and opportunities and possibilities for addressing these limitations are introduced. See the upcoming pages for the conclusions of each concept, in the following order: 'Kijk Kameraden', 'Spelen met Schaduw', and 'Stoepkrijt Ontdekking'.

## Kijk Kameraden



### THEMES

#### Building & playing with reflections

When observing children's instinctive interactions with the 'Kijk Kameraden' prototypes, they engaged in building and exploring reflective objects, including their own reflections. The block shapes encouraged construction, while the smaller mirrors prompted placement within the larger mirrors, creating multiple reflections. Additionally, children were drawn to adjust the mirrors by bending them. This interplay of changing reflections, resulting from altering the position of the mirrors, captured the attention of the children and sometimes resulted in long-lasting attention.

#### Looking at themselves and at others

Children tended to focus more on their own reflections than on those of others. This was partly due to the inward-facing mirrors, which directed attention towards the user's self. Furthermore, the objects were placed in a static environment, on a table. Because of this, it was often necessary to encourage children to look and search for each other through the objects. This guidance involved encouraging the children to look in the mirror at one another and placing assignments next to the objects. Some children took the mirrors into the playground, which led to increased interest in the mirrors and more exploration of contact. However, it was not as spontaneous or exploratory as hoped for.

#### Short, intimate contact

Contact was short and children quickly became occupied with other activities, whether that was playing alone with reflections or doing something completely different. It appeared that the small contact of eye contact through reflections can still feel quite direct and intimate.

### CONCLUSIONS ON SMALL CONTACT

#### MAIN THEME

Indirect direct/intimate contact through objects by exploring one of the senses: seeing

#### ELEMENTS

**Elements that evoke the small contact:** Reflections focused on others around you, (small) mirrors where focus is needed to find something/someone, guidance with using reflections to see others

**Elements that hinder small contact:** Reflections turned inward, reflections focused on children themselves

**Elements that are interesting for children and help stimulating the small contact:** Multiple reflections in one (reflecting each other), adjustable reflections/mirrors

### LIMITATIONS

#### Static, inward focused setting

Concluding, it appeared that the created setting with the mirrors was quite static, due to the placement of the mirrors on tables and the inward facing mirrors. Moreover it proved mostly short moments of contact.

### OPPORTUNITIES & POSSIBILITIES

#### Dynamic approach in wider context

To broaden the possibilities for making contact with others through reflections, a shift towards a more dynamic approach can be implemented. This can be achieved by placing reflections within a wider context, involving multiple mirrors and multiple possible reflections rather than just the reflection of oneself.

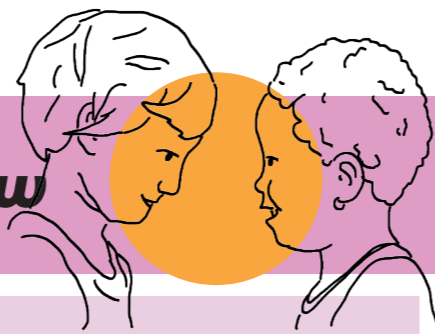
#### Interactivity through the manipulation of mirrors

Another possibility to make contact through reflections more interesting and long-lasting, is to make the interaction with the mirrors more interactive. This could be achieved by creating ways to manipulate the mirrors themselves.

#### Utilising the intimate aspect of eye contact

As analysed, making eye contact through the mirrors can be quite intimate. This can be a powerful way to connect with someone. What makes this concept compelling, is that the contact purely involves looking, no other forms of communication or actions are required. This intimate and simple contact could be beneficial for children with multiple disabilities, who struggle with verbal communication and mobility, making eye contact a fun and intimate interaction.

# Spelen met Schaduw



## THEMES

### Outside the box & creativity

The different, multi-interpretable objects and dynamic lighting sparked children's creativity. The shadow play was utilised in various ways: by creating stories, combining objects, exploring interplay and in using other objects to create shadows with. Shadows were projected onto different surfaces, including walls, ceilings, the ground and even onto people. The flashlights made it easy to create shadows of varying sizes and directions.

### Interesting, inviting & long attention span

The moving and dynamic shadows created by the light made the activity inviting for others to join. Moreover, the various possibilities for creation resulted in a long attention span. In general, the activity was very open for other children to participate. Only when other children were performing a shadow show, children were hesitant to join.

### From parallel to intermingled play in a dynamic play area

Parallel play occurred due to the attraction of the moving shadows, the accessibility to join in, and the open yet defined play area. Children use this entire area for play, which has resulted in an evolution from parallel play to more intermingled play. This small contact of intermingled play can positively influence the participation of children.

### Explorative, cooperative play

Cooperative play was also present in 'Spelen met Schaduw'. Objects that resembled already existing interplay objects, such as tennis rackets, led to exploration of this game in the shadow world. Other children creatively used the flashlights to create a game of tag. During this cooperative play, children interacted through shadows, resulting in indirect contact. Furthermore, children collaborated in creating new shadows and performances. This form of cooperative play is no longer viewed as small contact, as more interaction in the form of dialogues and discussions was present.

## CONCLUSIONS ON SMALL CONTACT

### MAIN THEMES

Indirect interplay through objects that can be manipulated from a small distance

Intermingled play among children using the same objects

### ELEMENTS

**Elements that evoke the small contact of intermingled play:** Inviting and stimulating moving images, accessible to join (easy to understand, varied objects / multi-interpretable / accessible objects, accessible activity: no focus on speed, but on exploring), open yet defined play area (easy access to material, a specific / preferred place to play)

**Elements that hinder small contact:** Limited opportunities to explore with shadows within the same space

**Elements that evoke the small contact of indirect interplay:** Objects that suggest recognisable interplay or belong together (Tic Tac Toe, tennis rackets), objects with open-ended play that stimulate creating games based on existing ones (playing tag with different lights)

## LIMITATIONS

### Dynamic play vs outdoor play

Testing was primarily conducted in indoor or covered areas due to the lack of sunlight. Flashlights allowed for the creation of varying shadow sizes on different surfaces, enhancing a dynamic and intermingled play experience. In contrast, sunlight restricts the manipulation of shadow sizes and directions. However, the formation of clear shadows, which lead to more dynamic play, requires some darkness, which is more present indoors. While this indoor play is possible at managed playgrounds with indoor spaces, it reduces the emphasis on outdoor play.

### Difficulties for children with motor disabilities

In feedback on this concept from the orthopedagogue Nandine Henry, see Chapter 10.4, it was mentioned that the two-handed activity of holding the flashlight and object for shadow, could be challenging for children with motor disabilities

## OPPORTUNITIES & POSSIBILITIES

### Creation of dynamic play fitting to situation

To support shadow creation in outdoor play, various solutions could be employed. Fabric could be used to create a darker and more covered play area for 'Spelen met Schaduw'. Furthermore 'Spelen met Schaduw' could stimulate outdoor play during the winter times, when it becomes darker soon and children tend to sit more inside. This could make playing outside during winter times more appealing.

### Help and devices for children with motor disabilities

During testing, it was observed that if an adult or supervisor held the flashlight, children could still participate and participate in engaging shadow play. This support enables children with motor disabilities, who struggle to hold and aim objects, to join in the activity. Additionally, modifications to the holding sticks or assistive devices could further assist those who find it difficult to hold the objects.

# Stoepkrijt Ontdekking



## THEMES

### Neighbourhood vs. playground

This concept was designed for use in the neighbourhood where children live. During testing, written assignments at playgrounds did not engage children much due to a lack of opportunities to draw routes. There were little tiles available for drawing, and the open layout of the playground provided little opportunity for exploration. However, when tested in the neighbourhood, children were more excited and engaged in creating routes.

### Empathy

During the observations two children were asked to create a route for children with disabilities in their neighbourhood, who were not familiar with other children and play areas. It was evident that these children thoughtfully and empathetically considered how to help them find. Even discussions occurred regarding how accessible the routes were for different children.

### Clear tasks stimulate creativity and action

Initially, the children worked alone on creating routes when no clear task was given. Once an exercise was clarified, the children brainstormed together on ways to provide help. They added signs to the routes such as 'This is our home' and 'If the sun shines, you can ring the doorbell' to indicate they would be available for help. Moreover, other signs for route indications like 'Look at the left' were used.

## CONCLUSIONS ON SMALL CONTACT

### MAIN THEME

Indirect contact through leaving and following traces that indicate the visibility of other children's play in the neighbourhood

### ELEMENTS

**Elements that evoke the small contact:** Having a clear assignment / goal, creating routes together (Creating empathy & understanding, guidance & help)

**Elements that hinder small contact:** No clear assignment / goal

## LIMITATIONS

### Limited testing in neighbourhood and following traces

The concept was intended for use in the neighbourhood. Testing was mostly done at playgrounds, which proved to be an unsuitable place for creating chalk routes. As testing was only done once in the neighbourhood, fewer insights were gathered regarding this place. Furthermore, the effectiveness of finding and following traces left by other children has not been tested in the neighbourhood.

### Accessibility for children

Orthopedagogue Nandine Henry, see Chapter 10.4, noted that chalking on pavements is not accessible for all children. For example for children in a wheelchair or with motor disabilities. Furthermore, not all children are able to read. During testing, it was observed that children would help each other with reading or asked adults to chalk things down.

## OPPORTUNITIES & POSSIBILITIES

### Assignment with clear goals

To encourage the creation of routes together, assignments should have clear goals and promote route creation throughout the neighbourhood. When children collaborate on routes, they become more creative and develop empathy. Additionally it was seen that children tend to stay close to their homes when creating routes. This all leads to the recommendation to create clear tasks that encourage children to work together on routes and integrate different places in the neighbourhood.

### Making creating routes accessible

Since chalking on the pavement is not equally accessible for all children, solutions like Walkie Chalk could be used. Walkie Chalk is a sidewalk chalk holder for use from a distance (Walkie Chalk, n.d.). Other ways to increase accessibility for creating routes could be studied.



# MAIN TAKEAWAYS

## CH.9

- Different consecutive ideation and conceptualisation activities are conducted, based on the main take-aways of the Discover and Define phase.
- 4 design directions with 6 ideas emerged:

*'From a distance', with the ideas 'Kijk Kameraden' and 'De Zintuigenmuur'.*

*'Bumping into each other' with the idea 'Playground entrance ritual'*

*'Leaving traces for each other' with the ideas 'Stoepkrijt Ontdekking' and 'Buurt Buitenspel vriendenboekje'*

1. **'Kijk Kameraden'**, focused on making contact through reflections of each other in mirrors. Children can search for and experiment with making eye contact.
2. **'Spelen met Schaduw'** focused on making contact through creating shadows. Children can play and respond to each others shadows with use of the sun or a flashlight as lightsource.
3. **'Stoepkrijt Ontdekking'** focused on making contact by leaving traces in the neighbourhood to follow. Assignments on the pavement will stimulate making routes to let others get to know neighbourhood and it's children.

## CH.10

- Testing with prototypes was conducted with minimal guidance in order to observe what children would instinctively do with the prototypes.
- User testing with the prototypes revealed the different possibilities for creating small contact moments between children. Each prototype had elements that effectively evoking small contact, as well as limitations and opportunities for improvement.
- The concepts were analysed by clustering the insights from observations and analysing these based on Parten's social play theory.

1. **'Kijk Kameraden'** facilitated meaningful small contact through creating **indirect, but still intimate contact through objects by exploring one of the senses: seeing.**
2. **'Spelen met Schaduw'** created meaningful small contact in two ways. The first one is by facilitating **indirect interplay through objects that can be manipulated from a small distance.** The second one is by **intermingled play among children using the same objects.**
3. **'Stoepkrijt Ontdekking'** created meaningful small contact through **leaving and following traces that indicate the visibility of other children's play in the neighbourhood.**





Figure 54. Photo from testing prototypes (own photo)

**DELIVER**

# CONTENT

## **11. Handing over**

11.1 Iterations

11.2 Future work with diverse outcomes

11.3 Conclusion poster on Small contact

## **12. Final conclusions**

12.1 Conclusion in relation to aim and design goal

12.2 Conclusion on principle Small contact

12.3 Conclusion in relation to goal of 'Samen Spelen??'

12.4. Limitations, alternative perspectives and recommendations

# INTRODUCTION

*The Deliver phase focuses on delivering an outcome.*

*In this phase, the graduation project is finalised by reflecting on what to hand over to the client 'Samen Spelen??' and concluding on the insights gained throughout the entire graduation project.*

*The chapter 'Handing over' presents iterations on the three concepts based on the conclusions drawn at the end of the Develop phase.*

*Furthermore it discusses how the various outcomes of this project can be used in future work of Samen Spelen and their stakeholders. It concludes with a poster summarising the identified themes and elements on the principle small contact.*

*This phase concludes with an overall summary, in relation to the project goal of this graduation project and in relation to the goal of Samen Spelen.*

# 11. Handing over

This chapter focuses on handing over the results from this graduation project. It starts with the exploration of iterations on the three concepts. The chapter then discusses with how the client Samen Spelen can utilise the insights from this graduation project in various ways. It concludes with the presentation of the conclusion poster summarising the most important findings on small contact.

## 11.1 Iterations

Based on the opportunities and possibilities for the concepts, outlined in chapter 10.5, small iterations on the three concepts have been made. These are illustrated in this subchapter.

The iterations are not intended to create a better version of each concept; rather they aim to explore possibilities for cultivating found small contact elements and possibilities for Samen Spelen to incorporate the concepts into their work.

The iteration of 'Kijk Kameraden' is based on the lack of a dynamic and open way of making this indirect, yet intimate, contact. The iteration of 'Spelen met Schaduw' acknowledges the fact that, when using flashlights, the created environment must have a certain level of darkness to foster a dynamic play setting. The iteration of 'Stoepkrijt Ontdekking' encourages children to go into their neighbourhood to leave traces by providing clear assignments.

### 11.1.1 Iteration 'Kijk Kameraden'

The iteration of 'Kijk Kameraden' aims to explore a more dynamic setting for making contact through reflections, placing reflective objects in a broader context. Multiple mirrors that reflect one another are arranged within a play environment. These reflections can be altered by adjusting the mirrors. This self-adjustable play element makes interacting with the objects more intriguing.

Lines connecting the mirrors on the ground could guide users in discovering one another through reflections within the play area. An explorative situation sketch is illustrated in Figure 55.

This placement within a broader context could be achieved by using acrylic mirrors used in prototypes used for testing, allowing for easy creation of bendable mirrors.



Figure 55. Explorative situation sketch of iteration 'Kijk Kameraden'

### 11.1.2 Iteration 'Spelen met Schaduw'

The iteration of 'Spelen met Schaduw' does not involve a change in the concept itself, but rather in the situation used to stimulate dynamic play outdoors instead of only indoors.

To explore the use of 'Spelen met Schaduw' in various suitable outdoor environments, tests were conducted in autumn under different weather and lighting conditions. See Figure 56, 57 and 58 for results. It was previously established that the formation of clear, dynamic shadows can stimulate intermingled play. This effect can be achieved with adjustable light sources, like flashlights, and a dark, open yet defined play area. Results from testing the shadow play outdoors showed that twilight enabled the creation of clear shadows in open areas. During the set of twilight, a covered area was still needed. When the sun is shining, the covered area should be positioned opposite the sun to block its light. Additional coverage could be provided using fabric. In the dark, the difference in the size of shadows was significant. When using 'Spelen met Schaduw' in the dark, it should be ensured that there is a defined play area, encouraging children to interact with each other through shadows. For extra results about testing, see Appendix 17..



Figure 56. Onset of twilight in the open



Figure 57. Onset of twilight in covered area



Figure 58. In darkness with flashlight, small object

### 11.1.3 Iteration 'Stoepkrijt Ontdekking'

In the iteration of 'Stoepkrijt Ontdekking' clear assignments are created to guide children in going through the neighbourhood together to create routes. In discussions with two members of Samen Spelen, it was suggested that this concept could be integrated into their tool, 'Hack de Speelplek'. This booklet contains exercises that engage children in outdoor play at any possible location. The assignments include a variety of activities, including climbing, building parcours, and games based on colours and animals. With this tool in mind, the assignments are created. These assignments encourage children to go through the whole neighbourhood and leave traces. See Figure 59 for the envisioned assignments.

It needs to be researched whether children who do not play outside much encounter these routes or if they need to be indicated more specifically or promoted. Within this overarching theme of 'indirect contact through traces', it may be worth considering traces that would remain visible over time.

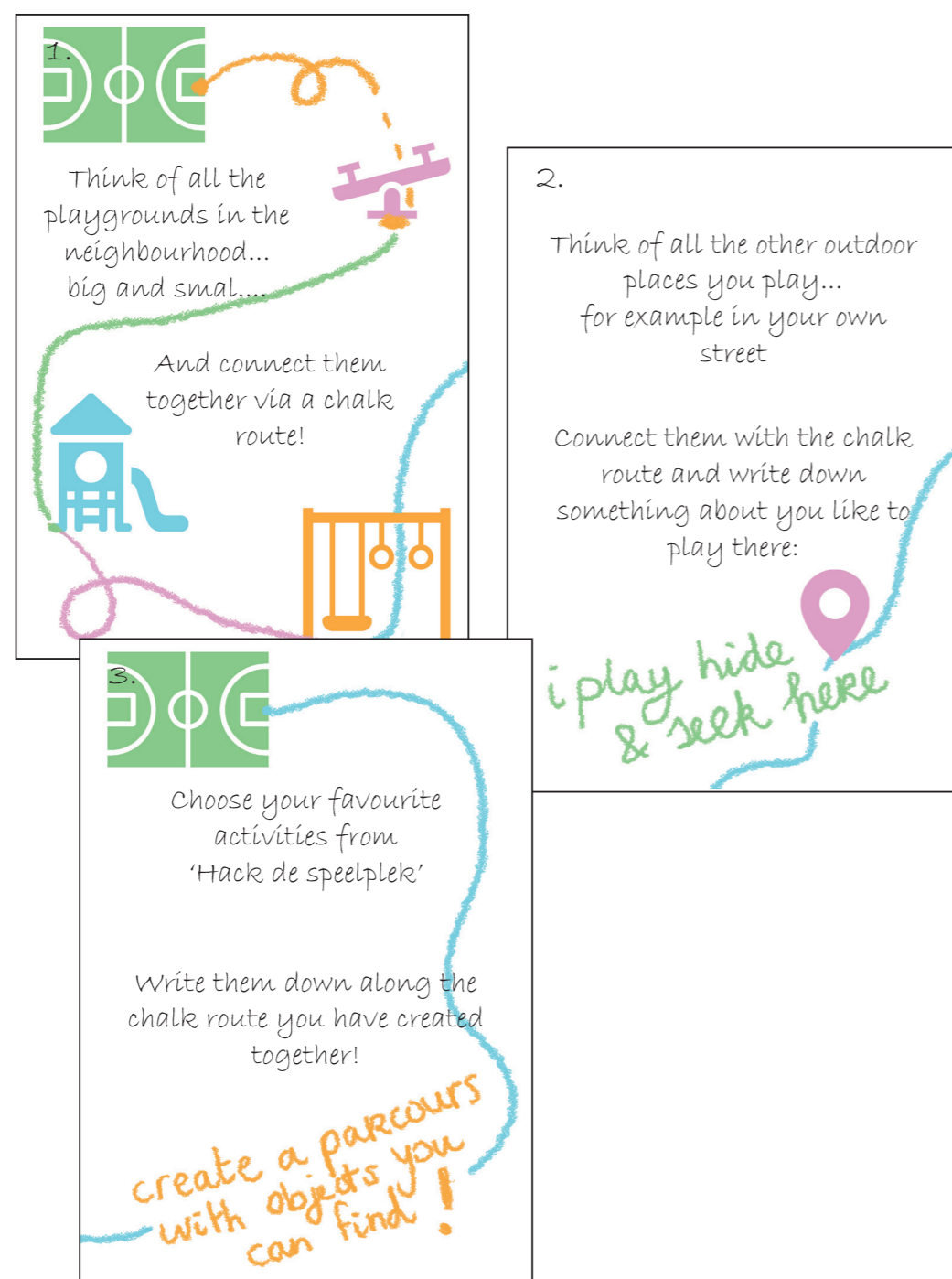


Figure 59. Route assignments iteration of 'Stoepkrijt Ontdekking'

### 11.2 Future work with diverse outcomes

This subchapter outlines the future possibilities for the client, Samen Spelen. It discusses how the various outcomes from this project can be further utilised and explored, including their relevance to stakeholders.

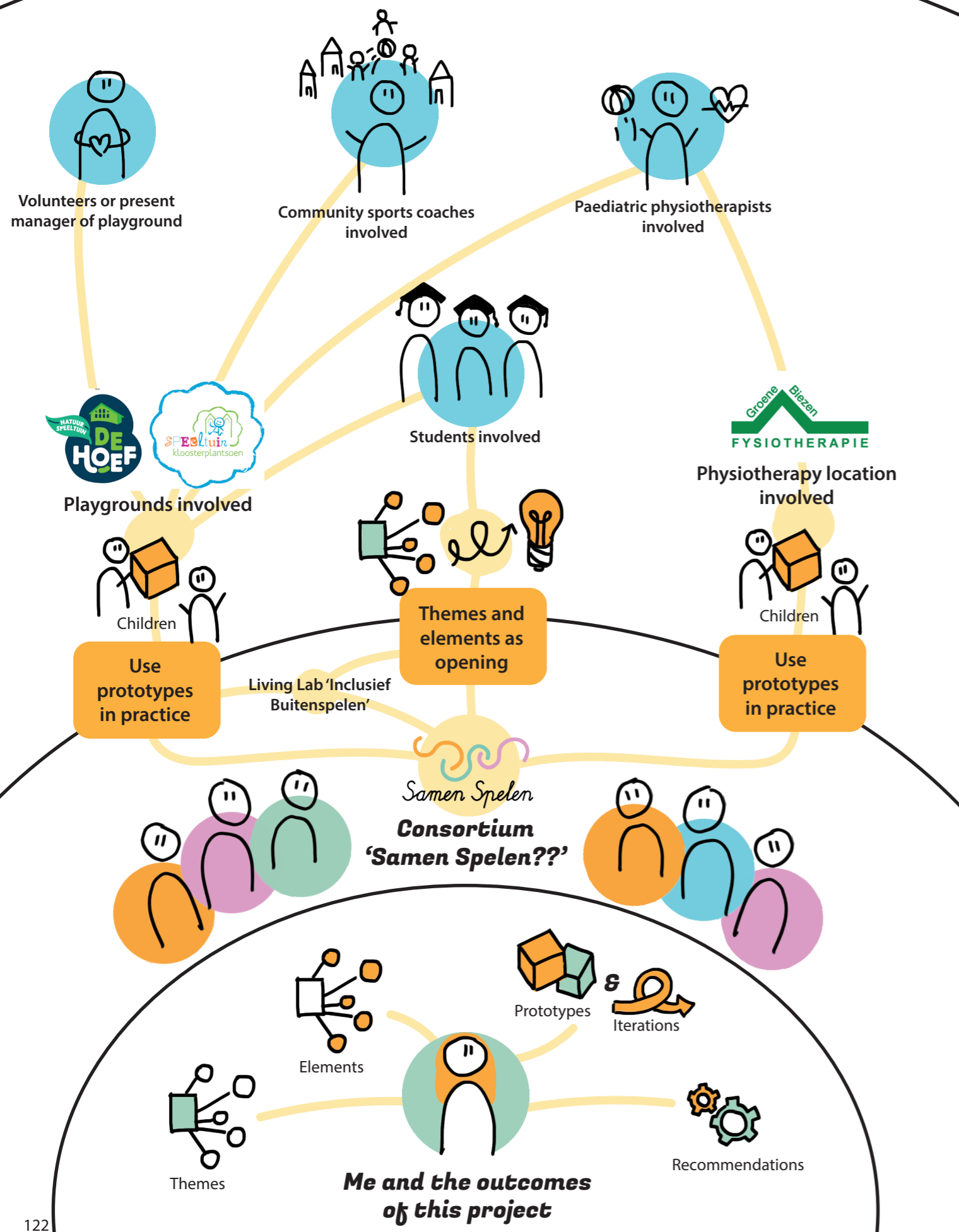
This graduation project focused on researching and designing for the participation of children with disabilities and establishing small contact between children with and without disabilities. Various levels of outcomes have been derived from this project. The outcomes range from overarching themes and elements that facilitate different types of small contact, to physical prototypes and iterations.

These diverse outcomes offer multiple options for future use in practice and research. Figure 60 provides an overview of how the client Samen Spelen can utilise the project's outcomes. In collaboration with their stakeholders and student projects, they could implement these layered outcomes in numerous ways. For an overview of the stakeholders of Samen Spelen, see Chapter 1.1.

#### List of possibilities of future work:

- The **overarching themes and their elements** related to small contact can serve as a foundation for developing and testing new concepts. For example within student projects.
- **Prototypes** can be applied in play activities at the playgrounds 'De Hoef' and 'Kloosterplantsoen,' as well as at the physiotherapy centre 'De Groene Biezen' in IJsselstein. This can help create contact moments between children and provide new insights into small contact.
- Last but not least, the exploration of the **overarching principle of small contact** can give Samen Spelen and their stakeholders a new perspective on facilitating inclusive outdoor play.

Figure 60. Overview of future work opportunities with the outcomes of this project



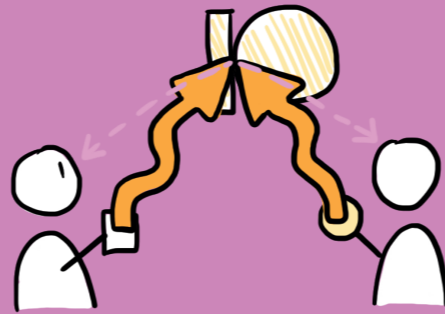
## 11.3 Conclusion poster on Small contact

This subchapter presents the conclusion poster summarising the identified themes and elements that facilitate small contact.

On the next pages a conclusion poster, summarising the main findings of this graduation project, can be found. From the middle the four identified main themes that facilitate small contact are shown. In the layer beneath, elements relating to these themes are illustrated. Some of these elements relate more to the activity in regard to the theme, others to the objects used for the activity. This poster serves as the final delivery and conclusion of this graduation project.

# Indirect interplay

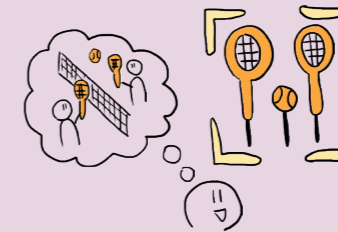
Indirect play through objects that can be manipulated from a small distance



Based on the concept 'Spelen met Schaduw'

Objects that suggest recognisable interplay or belong together

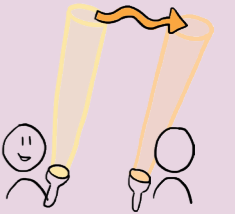
e.g. Tic Tac Toe, Tennis rackets



Objects with open-ended play that stimulate creating games based on existing ones

e.g. Playing tag with different lights

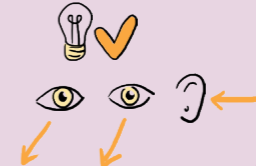
The placement of recognisable interplay objects and open-ended objects in this indirect, explorative context stimulates accessible interplay.



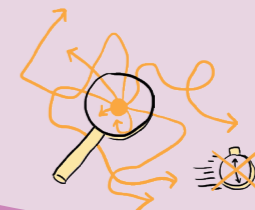
Accessible to join

When activities based on play or contact are understandable by seeing the objects, seeing others play with them, or through a brief explanation, they become more accessible to join. By focusing on exploration within the activity and presenting a variety of multi-interpretable objects, children are given the opportunity to participate in their own way.

Easy to understand



Accessible activity: focus on exploring, not on speed

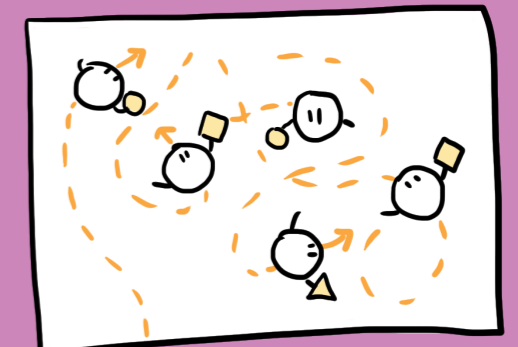


Varied, multi-interpretable & accessible objects



# Intermingled play

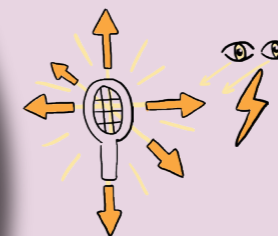
Intermingled play among children using the same objects



Based on the concept 'Spelen met Schaduw'

Seeing moving images created by other children attracts attention, inspiring other children to participate and make similar creations.

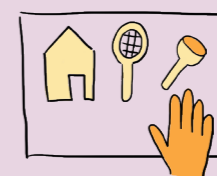
Inviting and stimulating moving images



Open yet defined play area

Creating a specific play area with easily accessible materials stimulates opportunities for intermingled play, and, at a further stage, cooperative play.

Easy access to material



A specific selected / preferred place to play



# Small contact

Different methods of making accessible, safe and natural contact that facilitate participation of children with disabilities

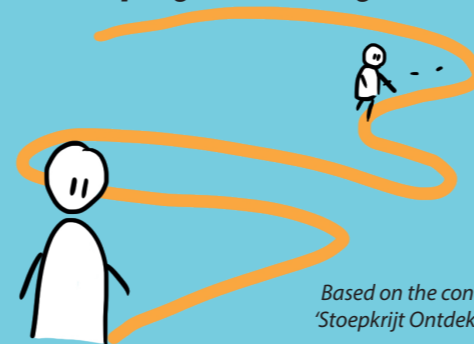


Based on testing three concept prototypes, overarching themes of small contact have been identified. Within these themes, elements that stimulate small contact between children have been recognised. These themes and elements are presented on this poster and can be used in further research and design for inclusive outdoor play in the social-emotional context.

## for inclusive play

# Leaving & following traces

Indirect contact through traces that indicate the visibility of other children's play in the neighbourhood



Based on the concept 'Stoepkrijt Ontdekking'

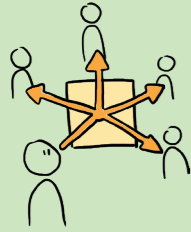
Focus on the environment of the user

When objects encourage children to focus on their surroundings, they bring attention to others around them. This focus can be directed through guiding components. Additionally, objects that require focus can help in attentively looking for and observing their surroundings including people.

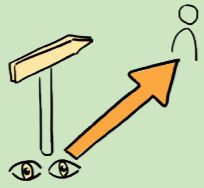
(Small) mirrors where focus is needed to find / search / make sense of what you see



(Reflections) focused on others around / the outside

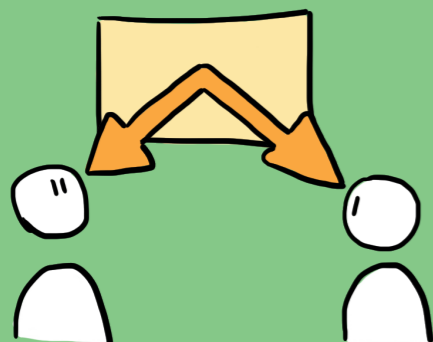


Guidance on using reflections to see others



# Indirect intimate contact

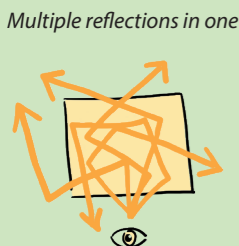
Indirect direct contact through objects by exploring one of the senses: seeing



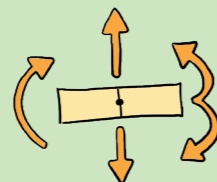
Based on the concept 'Kijk Kameraden'

Multiple and dynamic options for use

Objects that offer multiple usage options, such as featuring multiple reflections and being adjustable & movable, provide opportunity for exploration. In this context, this means exploring the external environment with other people in it.



Adjustable & moveable reflections



Clear assignment / goal

To reach collaboration between children and the creation of empathy, it is beneficial to create clear assignments and goals. Additionally, clear assignments can increase the visibility of the routes within the neighbourhood.



Creating empathy & understanding



It is observed that letting children create together gives them the opportunity to discuss their thoughts and ideas, as well as to ask and offer each other guidance & help. This fosters creating empathy & understanding among each other and for the ones they are creating routes for.

Guidance & help



# 12. Final conclusions

This chapter concludes and reflects on the graduation project. It begins with conclusions related to this project, including reflections on the design goal of facilitating small contact and on the three developed concepts. A bullet list summarises the findings on the overarching principle of small contact identified during this graduation project. It then presents conclusions regarding the goal of 'Samen Spelen?'. Finally, the chapter discusses the project's limitations, alternative perspectives and recommendations.

## 12.1 Conclusion in relation to aim and design goal

This subchapter concludes on this graduation project by addressing the design goal, the explanation and importance of small contact, and the three concepts that stimulated different small contact.

This graduation project started with a focus on the social-emotional context of inclusive outdoor play, with the consortium 'Samen Spelen?' as the client. The objective was to increase participation of children with disabilities. The project aimed at inclusion, ensuring that the needs of both children with and without disabilities in outdoor play are met.

Through research, three main themes were identified that have an influence on the social-emotional context of inclusive outdoor play. These themes are: 'The environment: people and place', 'Inclusivity of outdoor play activities & events' and 'Children's inner world'. These themes formed the foundation for three poster concluding the phase Discover, see pages 56-61.

The research findings informed the design goal:

**My design goal is to facilitate/create small equal contact between children with disabilities and children without disabilities that do not know each other, at an outside play area in their neighbourhood, which positively influences the participation of children with a disability.**

Based on this design goal, three prototypes that facilitate small contact have been created. These prototypes explore various methods of stimulating small contact between children.

### 12.1.1 Explanation and importance of small contact

It has been found that children, both with and without disabilities, are often hesitant to approach each other and ask to play together. Unfamiliarity among children presents a significant obstacle in this regard.

For children with disabilities, this process is even more challenging, as they often attend school outside their neighbourhoods. This leads to increased unfamiliarity with children in their neighbourhood and specifically at play areas. Additionally, play activities are not always accessible for a wide range of children, as they can be focussed on speed and movement, have strict rules or require verbal communication for participation. This results in children experiencing barriers for participation.

In this project 'small contact' is explored as a means to overcome these barriers.

Small contact is interpreted as a safe, accessible and natural way for children to make contact with each other. For the conclusions on the overarching principle small contact, see Chapter 12.2.

In this project, different types of small contact were explored by creating and testing three concepts. The focus was on identifying what encourages and lowers the threshold for children to make contact with each other. The conclusions on these, can be found on the next page.

### 12.1.2 Conclusion on different ways to stimulate small contact

Through brainstorming, various forms of small contact were explored and developed into prototypes for testing with children. These prototypes differed in terms of the type of objects used to facilitate contact, the type of small contact, and the directness of the contact. The tests focused on how children instinctively interacted with the prototypes.

1. In the case of 'Kijk Kameraden' it was observed that eye contact or simply looking at each other, could be achieved without the need for other forms of communication. Short moments of eye contact, which reflects the 'small' in small contact, can be a powerful way of making contact and connecting people. This accessible form of contact can increase participation of a wide group of children. However, making eye contact can be perceived as intimate, which can be considered as not that 'small'. Furthermore, it has been found that establishing this form of contact spontaneously can be challenging.

2. The concept 'Spelen met Schaduw' was identified as an accessible play activity that offers different levels of social play, positively influencing children's participation. The concept facilitated two types of small contact between children through playing with shadows. The first type is intermingled play, where children play dynamically among each other. This creates an activity that is open for other children to join and provides opportunities for further interaction.

The second type of small contact identified is the indirect contact between children through the use of play objects. In this form, children made contact with each other through the shadows created by these play objects. In this indirect contact, recognisable interplay objects, along with those who offering a wide range of manipulation possibilities, were found to stimulate making contact. This type of cooperative play is defined as accessible small contact, as it is indirect and emphasises free exploration rather than rules and speed.

3. The concept of 'Stoepkrijt Ontdekking' represents the most indirect method of facilitating small contact, as the contact is established through leaving and following traces. On the other hand, the joint creation of routes stimulates direct impactful contact, fostering empathy for other children in the neighbourhood.

In the context of 'Stoepkrijt Ontdekking', the equality of contact is not determined by engaging in the same activities, but rather by addressing children's own, different needs. The traces of routes created throughout the neighbourhood can reach those who need them. These children may not yet know the neighbourhood, be aware of available play opportunities, or have contact with other children. For children who already engage in outdoor play with others, the collaborative creation traces enhance understanding and empathy for those who face barriers to outdoor play. For both groups of children, this approach serves as a step towards increased participation of children with disabilities.



## 12.2 Conclusion on principle Small contact

*Based on the exploration of small contact through three concepts, the most important insights on this principle have been gathered.*

A bullet point list has been created to capture the essence of all the insights on small contact gained throughout the project:

- The concept of small contact is based on a **safe and accessible way of making contact**. It does not have to be a full play moment; however, it provides opportunities for more and new contact, as well as the potential for these to evolve into play moments.
- This small and safe way of making contact makes it **easier for children who are unfamiliar with others to try out and initiate initial contact**. This can be particularly helpful for children with disabilities who are reluctant to play with others, due to previous negative or limited experiences in contact with others. New positive experiences in contact with others contribute to the development of a **positive self-image**.
- The objects that stimulate small contact focus on **accessibility for a variety of children, allowing them to participate in their own way**. The focus of this contact is not on speed or rules, but on exploration.
- The initiating factor for contact comes from stimuli provided by objects, rather than from other people, as often is the case. These **objects stimulate a natural way of making contact**, rather than a controlled stimulation from others.
- Children are **encouraged to initiate contact on their own**, using objects that facilitate this contact. This approach can stimulate their own exploration of contact, and foster a sense of **autonomy and self-efficacy**.

## 12.3 Conclusion in relation to goal of ‘Samen Spelen??’

*This subchapter reflects on the results of this graduation project in relation to the goal of ‘Samen Spelen??’.*

The goal of the client ‘Samen Spellen??’ is as follows:

**The goal is to develop two toolkits for child therapists to facilitate inclusive outdoor play for children with physical disabilities (4-12 years old) and their parents.**

Their project is structured around two main areas of focus: the **physical context** and **social context**. The latter represents the core of this graduation project.

The results of this project are valuable for facilitating inclusive outdoor play for children with disabilities through the use of objects. These objects stimulate safe, accessible and natural contact and interaction. The findings of this study identify the themes and elements present in these objects.

The results offer the client ‘Samen Spelen??’ a new perspective on enhancing participation in outdoor play, enriching their work and toolkit development. By integrating this perspective and the outcomes of facilitating small contact into their toolkits, they can inform and motivate child therapists to adopt this perspective in their practice. Increased

attention to facilitating small contact moments between children with and without disabilities who are unfamiliar with each other, shows great potential for enhancing inclusive outdoor play.

Stimulating contact between children in a natural flow is important, as facilitators are not always present. This approach allows children to learn how to independently make contact with others, at their own level, and to explore different ways of making contact. Additionally, contact and play facilitated by others may not be suitable for every child. It should be noted that this does not imply that guidance from others is never required or beneficial.

A shift in focus is occurring, moving from primarily stimulating physical activity to promoting social contact between children in order to enhance inclusive outdoor play. This project’s findings support this shift: it demonstrates that by focusing on stimulating small contact between children with and without physical disabilities, a starting point for inclusive outdoor play can be established. and playing and moving together can be established.

## 12.4 Limitations, alternate perspectives and recommendations

*This subchapter discusses the limitations, alternative perspectives, and recommendations that should be considered in this graduation project.*

### Testing with children with disabilities

Unfortunately, during the testing phase of this project, there was little opportunity to test with children with disabilities. Although two inclusive play days were attended, almost no children with disabilities were present. It is recommended that future research includes testing with a combination of children with and without disabilities who are unfamiliar with each other. Testing can be conducted with children with varying disabilities and experiences of barriers in inclusive outdoor play, to observe how different children respond to different facilitation of small contact.

### Accessible vs out of comfort zone

The approach of small contact aims to provide facilitating contact that would be accessible to a diverse range of children, thereby increasing participation. An alternative approach could involve encouraging and helping children in trying new activities that are out of their comfort zone. This approach could also contribute to fostering children’s positive self-image and promoting inclusive outdoor play. However, it would require more attention to facilitation and providing encouragement from others.

### Differences in children

Another point to consider is that facilitating contact that suits all children is challenging. Children differ in their preferences, personalities, experiences, abilities and disabilities. Furthermore, children may experience barriers in outdoor play differently. It is important to note that the findings, concepts and themes regarding stimulating small contact from this graduation project, do not apply to every child.

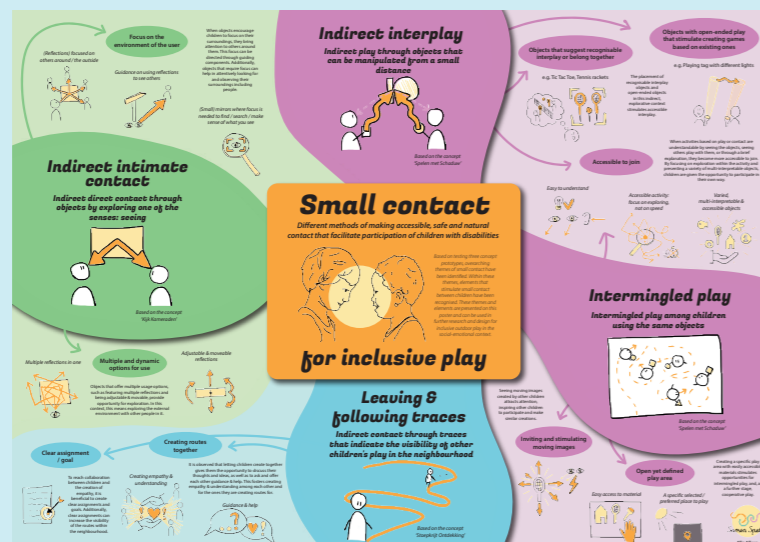
### Positive effects on the long term

As mentioned, facilitating small contact serves as a starting point for increased contact, play moments, a growing positive self-image, and the development of new friendships in the neighbourhood. However, this graduation project did not focus on assessing the long-term effects of the different types of facilitating small contact and how these might evolve over time. This could be explored further in future research.

# MAIN TAKEAWAYS

## CH.11

- This graduation project has **outcomes on various levels**: from the main principle 'small contact' to themes and elements that can stimulate this principle, as well as prototypes and iterations.
- Different stakeholders from the client Samen Spelen can utilise the outcomes in various ways.
- **Themes and elements** can serve as insights for understanding the importance and functioning of small contact. Additionally, they can inform the development of new prototypes. These represent the most significant outcomes of the project.
- **Prototypes and iterations** can be implemented in practice to facilitate contact between children get in contact, and potentially provide new insights into stimulating small contact through the use of object
- Chapter 11 is concluded with an **overview poster of the themes and elements** that facilitate **small contact**.



## CH.12

- **Different methods of small contact** facilitated by objects effectively promote the participation of children with disabilities in outdoor play.
- The **principle small contact** is a **safe, accessible and natural** way of making contact. This contact makes it easier for children who are unfamiliar with each other to try out and initiate contact.
- This graduation project gives Samen Spelen a **new perspective** on facilitating inclusive outdoor play. Child therapists can use the insights to stimulate natural contact between children with physical disabilities.

# Personal reflection

## Project process & findings

Throughout this project, I learned that I sometimes need to trust the process more. I can be uncertain about which steps to take; however, I recognise that each step leads to a valuable exploration in one way or another. Furthermore, at the start of this project, I was keen to adhere to my project plan, as this provided me with a sense of control. I discovered that I need to view this planning more as a guideline and be open to exploring new opportunities that may not have been included in my original plan, in order to achieve meaningful results.

I view the findings from small interactions as a valuable new perspective for 'Samen Spelen??' to explore further. However, recognise that the facilitation of small contact is only one little step towards inclusivity in play. Working with various stakeholders throughout the project taught me that inclusivity is an important yet challenging and complex subject. In future work I would like to integrate this important topic further in my projects.

When examining the final results of this project, I was particularly intrigued by the element of indirect interplay with recognisable shadow objects, for example tennis rackets. Placing these objects in a different context transformed the interactions with them. The contact between children through the use of tennis rackets in this shadow world became exploratory, with no need for further communication. While playing a game of 'normal' tennis is structured by rules.

## Learning Goals

This graduation project provided me with the opportunity to develop my own perspective as a designer. I learned a lot about myself, as a designer and in general, from such a large and individual project. However, I still find it challenging to make decisions based on my expertise and intuition. This is something I would like to further develop in the future. In this project, I discovered that I enjoy creating visual content. Moreover, the process of producing visuals helps me understand my work better, enabling me to draw more informed conclusions. Additionally, I found that analysing and making sense of data is something I enjoy.

Furthermore, I gained more experience in sharing unfinished work to receive feedback. I improved at organising meetings and sessions and learned how to ask the right questions to get the feedback I look for.

Before starting this project, I aimed to gain more experience in generative sessions. However, as the project progressed, I realised that this was not the right step to take. Fortunately, I had the opportunity to join the generative sessions with children organised by 'Samen Spelen??'. This experience taught me a lot about the organisation and facilitation of these sessions for children. Additionally, working in a multi-professional team allowed me to receive valuable feedback and new perspectives from different experts.

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# Appendices

## Appendix 1: Project brief



DESIGN FOR our future

### IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

In this document the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document may also include involvement of an external client, however does not cover any legal matters student and client (might) agree upon. Next to that, this document facilitates the required procedural checks:

- Student defines the team, what the student is going to do/deliver and how that will come about
- Chair of the supervisory team signs, to formally approve the project's setup / Project brief
- SSC E&SA (Shared Service Centre, Education & Student Affairs) report on the student's registration and study progress
- IDE's Board of Examiners confirms the proposed supervisory team on their eligibility, and whether the student is allowed to start the Graduation Project

#### STUDENT DATA & MASTER PROGRAMME

Complete all fields and indicate which master(s) you are in

Family name	Albers	7161	IDE master(s)	IPD <input type="checkbox"/>	Dfi <input checked="" type="checkbox"/>	SPD <input type="checkbox"/>
Initials	E.		2 <sup>nd</sup> non-IDE master	<input type="text"/>		
Given name	Elke		Individual programme (date of approval)	<input type="text"/>		
Student number	<input type="text"/>		Medisign	<input type="checkbox"/>		
			HPM	<input type="checkbox"/>		

#### SUPERVISORY TEAM

Fill in the required information of supervisory team members. If applicable, company mentor is added as 2<sup>nd</sup> mentor

Chair	Mathieu Gielen	dept./section	HCD/DCC	<p>! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.</p> <p>! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.</p> <p>! 2<sup>nd</sup> mentor only applies when a client is involved.</p>
mentor	Susie Brand-de Groot	dept./section	HCD/HICD	
2 <sup>nd</sup> mentor	Rosa de Vries			
client:	consortium 'Samen Spelen??'			
city:	Utrecht	country:	Netherlands	
optional comments	<input type="text"/>			

#### APPROVAL OF CHAIR on PROJECT PROPOSAL / PROJECT BRIEF -> to be filled in by the Chair of the supervisory team

Sign for approval (Chair)

Digitaal ondertekend door Mathieu Gielen  
 Datum: 2024.04.30 17:36:30 +02'00'

Name  Date  Signature

#### CHECK ON STUDY PROGRESS

To be filled in by SSC E&SA (Shared Service Centre, Education & Student Affairs), after approval of the project brief by the chair. The study progress will be checked for a 2<sup>nd</sup> time just before the green light meeting.

Master electives no. of EC accumulated in total	<input type="text"/>	EC	<input checked="" type="checkbox"/>	YES	all 1 <sup>st</sup> year master courses passed
Of which, taking conditional requirements into account, can be part of the exam programme	<input type="text"/>	EC	<input type="checkbox"/>	NO	missing 1 <sup>st</sup> year courses

Comments:

Sign for approval (SSC E&SA)

Robin den Braber  
Digitaal ondertekend door Robin den Braber  
Datum: 2024.05.06 08:54:44 +02'00'

Name  Date  Signature

#### APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM -> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

YES	<input checked="" type="checkbox"/>	Supervisory Team approved
NO	<input type="checkbox"/>	Supervisory Team not approved

Comments:

Based on study progress, students is ...

<input checked="" type="checkbox"/>	ALLOWED to start the graduation project
<input type="checkbox"/>	NOT allowed to start the graduation project

Comments:

Sign for approval (BoEx)

Monique von Morgen  
Digitally signed by Monique von Morgen  
Date: 2024.05.07 10:27:12 +02'00'

Name  Date  Signature

Personal Project Brief – IDE Master Graduation Project

Name student **Elke Albers**

Student number **4,570,227**

PROJECT TITLE, INTRODUCTION, PROBLEM DEFINITION and ASSIGNMENT  
Complete all fields, keep information clear, specific and concise

Project title **Breaking social-emotional barriers for children with physical disabilities when playing outside**

Please state the title of your graduation project (above). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

Introduction

Describe the context of your project here; What is the domain in which your project takes place? Who are the main stakeholders and what interests are at stake? Describe the opportunities (and limitations) in this domain to better serve the stakeholder interests. (max 250 words)

The graduation project is in collaboration with 'Samen Spelen??', a four-year research project from 'Hogeschool Utrecht'. They are developing two toolkits for child therapists to facilitate inclusive outdoor play for children with physical disabilities (4-12 years old) and their parents through participatory design and research. One toolkit focuses on the physical context and one on the social context. This consortium is founded because children with physical disabilities do not often play outside, while it is proven that playing outside with others has positive effects on their health and development (Bloemen et al., 2021).

Besides physical barriers, which most studies are centred on, social and emotional barriers are important factors for inclusion in outdoor play. Engelen et al. (2021) state "the lack of self-esteem, autonomy and self-solving abilities are the building blocks of the emotional barrier" (p.6). Social and emotional development are interwoven with each other, yet there is a difference in nuance: emotional development is concentrated on the child's internal emotions, and social development is concentrated on the relationship with their environment (Kijk op Ontwikkeling, 2014).

Other stakeholders that play a role in inclusive outdoor play for these children are their parents, siblings, friends, and other children engaging in outdoor play and their parents. For example, the worries of parents about their child's safety when playing outside with others, can negatively influence the self-esteem, autonomy and self-solving abilities of their child (Engelen et al., 2021). Moreover, professionals including child therapists, teachers at schools, social workers and playground managers are involved.

References: Bloemen, M; Verhoeven, F; Bolster, E; van Gessel, C; van der Lugt, R; Wittink, H. (2021). Samen Spelen. SIA RAAK PRO aanvraag. - Engelen, L., Ebberts, M., Boonzaaijer, M., Bolster, E. a. M., Van Der Put, E. a. H., & Bloemen, M. (2021). Barriers, facilitators and solutions for active inclusive play for children with a physical disability in the Netherlands: a qualitative study. BMC Pediatrics, 21(1). <https://doi.org/10.1186/s12887-021-02827-5> - Kijk op Ontwikkeling. (2014, November 22). Wat is sociaal-emotionele ontwikkeling <https://www.kijkopontwikkeling.nl/artikel/wat-sociaal-emotionele-ontwikkeling/>

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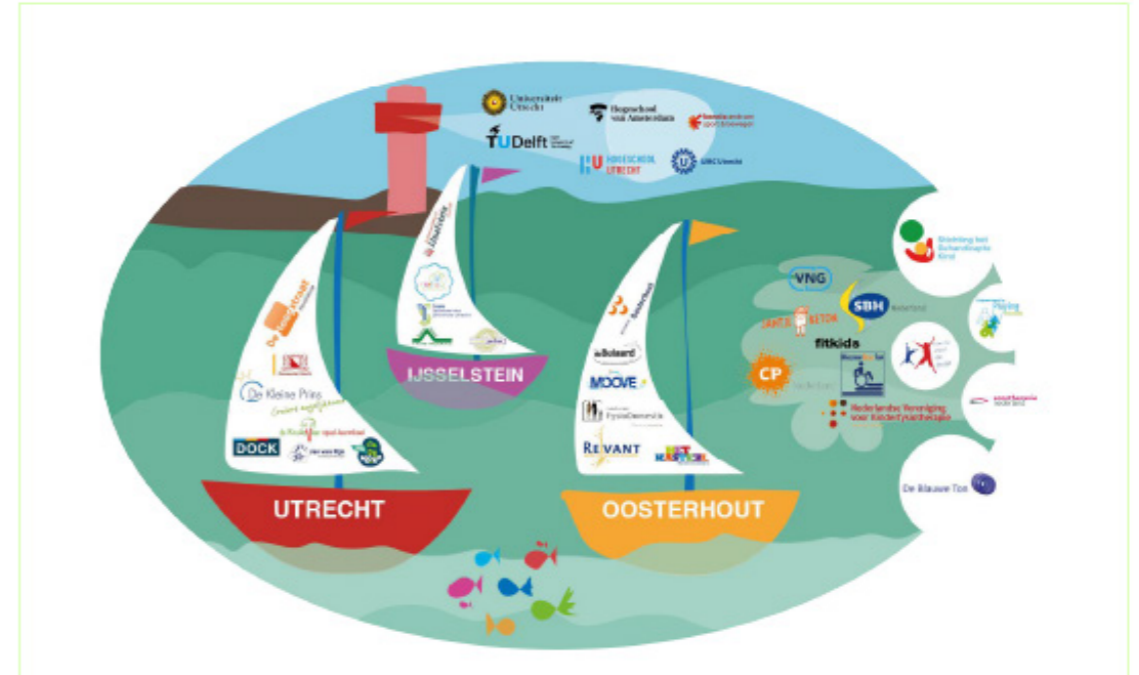


image / figure 1 Stakeholder visual from 'Samen Spelen??'



image / figure 2 Context visual from 'Samen Spelen??'

Personal Project Brief – IDE Master Graduation Project

**Problem Definition**

What problem do you want to solve in the context described in the introduction, and within the available time frame of 100 working days? (= Master Graduation Project of 30 EC). What opportunities do you see to create added value for the described stakeholders? Substantiate your choice. (max 200 words)

As mentioned before, little research has been done on the social and emotional barriers. Therefore the factors self-esteem, autonomy and self-solving abilities negatively influencing the social-emotional barrier, found in a recent study by Engelen et al. (2021), will be further explored in my graduation project. The project will mainly concentrate on the factor self-esteem, taking into account the influence of the factors autonomy and self-solving abilities. The knowledge gap regarding the social and emotional barriers in this context, and for my project in particular the factor self-esteem, hinders the development of adequate solutions that could help children with physical disabilities to play more outside together with peers. This is important because engaging in outdoor play with others has a positive influence on children's health and development. Because there has been done little research on the social and emotional barriers, I will remain open during this project to discovering other influential factors.

**Assignment**

This is the most important part of the project brief because it will give a clear direction of what you are heading for. Formulate an assignment to yourself regarding what you expect to deliver as result at the end of your project. (1 sentence) As you graduate as an industrial design engineer, your assignment will start with a verb (Design/Investigate/Validate/Create), and you may use the green text format:

Design a solution to lower social and emotional barriers for children with a physical disability, with a particular focus on increasing their self-esteem, in the context of playing outside with others. The solution will be expressed in a prototype that is focussed on the interaction with children with physical disabilities.

Then explain your project approach to carrying out your graduation project and what research and design methods you plan to use to generate your design solution (max 150 words)

To get a grip on the context and explore the knowledge gap, I start with a literature study on existing knowledge from domains that touch upon different parts of my project and an examination of the insights from 'Samen Spelen?'. At the same time, I plan to do observations and talks at 'Samenspeelplekken', playing areas where everyone is 100% welcome. Based on initial research, I will continue with a generative session round with children including activities of Contextmapping and/or Co-design which leads to my design vision. Design ideas are created and iterated on by testing prototypes with children. I want to end the project with a prototype, tested in an evaluation session. During the project, I will join design sessions with children and a design sprint organized by 'Samen Spelen?'. Furthermore, principles of Design for Emotion and Design for Behaviour Change could inspire research and design activities.

**Project planning and key moments**

To make visible how you plan to spend your time, you must make a planning for the full project. You are advised to use a Gantt chart format to show the different phases of your project, deliverables you have in mind, meetings and in-between deadlines. Keep in mind that all activities should fit within the given run time of 100 working days. Your planning should include a kick-off meeting, mid-term evaluation meeting, green light meeting and graduation ceremony. Please indicate periods of part-time activities and/or periods of not spending time on your graduation project, if any (for instance because of holidays or parallel course activities).

Make sure to attach the full plan to this project brief. The four key moment dates must be filled in below

Kick off meeting

Mid-term evaluation

Green light meeting

Graduation ceremony

In exceptional cases (part of) the Graduation Project may need to be scheduled part-time. Indicate here if such applies to your project

Part of project scheduled part-time	<input type="checkbox"/>
For how many project weeks	<input type="text"/>
Number of project days per week	<input type="text"/>

Comments:

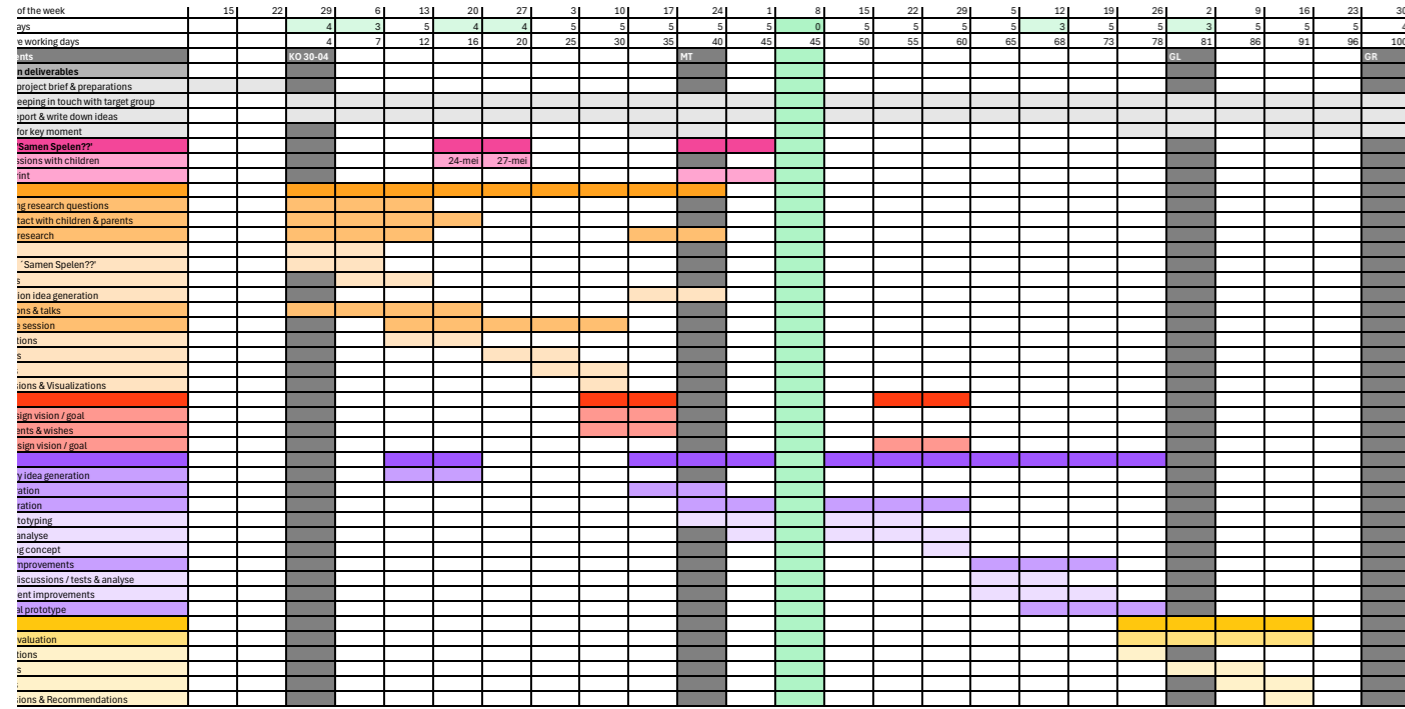
**Motivation and personal ambitions**

Explain why you wish to start this project, what competencies you want to prove or develop (e.g. competencies acquired in your MSc programme, electives, extra-curricular activities or other).

Optionally, describe whether you have some personal learning ambitions which you explicitly want to address in this project, on top of the learning objectives of the Graduation Project itself. You might think of e.g. acquiring in depth knowledge on a specific subject, broadening your competencies or experimenting with a specific tool or methodology. Personal learning ambitions are limited to a maximum number of five. (200 words max)

This project combines two of my interests: Inclusive design and designing with and for children. The electives 'Inclusive Design' and 'Co-design and Research with Children' gave me first experiences in these fields. In high school, I was already interested in engaging with children and joining their perceptual world, which resulted in babysitting for various families. For my graduation project, I want to develop my competencies in these fields further and contribute to this important research project aimed at facilitating inclusivity in outdoor play. I believe it is important to make experiences, in this case going outside, playing and moving, and connecting with others, accessible to everyone. I would like to gain experience in working in a multi-professional research team. I am interested in seeing perspectives from other areas of expertise and learning from professionals in other fields. Additionally, I want to gain more hands-on experience in participatory design research, including the preparation of sessions with suitable materials and processing data into relevant and visually supported insights. Finally, I aim to increase my confidence in the research and design process, by for example reflecting throughout the process, sharing work in progress, and working on my project management.

## Project brief: planning



## Appendix 2: Other design and research activities

Activity	Place	Date	Goal	Methods	Extra information
Co-design session organised by 'Samen Spelen'	Playground 'Griftsteede' in Utrecht	08/04/2024	First introduction with the 'Samen Spelen' team and stakeholders before the start day of my graduation. & Visiting as one of the participants. & Helping with data collection by observing.	/	Type and amount of participants: Participants included a variety of people from the stakeholders. I visited as one of the participants. Supporting materials: / Data collection: My part: writing down insights when participants tested prototypes from Samen Spelen by observing and listening.
Attending review from second years Communication Multimedia Design students	Hogeschool Utrecht	06/05/2024	Getting immersed in the context and inspired by others insights and ideas	Listening to presentations and discussions	Type and amount of participants: 4/5 student groups Supporting materials: / Data collection: Written notes.
Organised play moment by Samen Spelen on National outdoor play day with playing a bingo game designed by Communication Multimedia Design students	Playground 'Kloosterplantsoen' in IJsselstein	12/06/2024	Getting inspired by how children play with the designed play activity in context	Observation of and guiding in playing a bingo game with small assignments throughout the playground with children with and without a disability.	Type and amount of participants: Around 15/20 children and teenagers, played with and spoken to Around 5 children, of which one walked with a walking assistance Supporting materials: Bingo game in form of signs on sticks Data collection: Written notes
Triangulation session organised by Samen Spelen	Hogeschool Utrecht	13/06/2024	Getting inspired from views of different stakeholders from 'Samen Spelen'. & Visiting as one of the participants to give feedback on the prototypes 'Samen Spelen' created	Listening to discussions	Type and amount of participants: Around 6, from different stakeholders of 'Samen Spelen'. Including me at one phase of giving feedback on prototypes. Materials: Printed insights from Samen Spelen, prototypes from Samen Spelen for physical context Data collection: Written notes
Attending final presentations from second years Communication Multimedia Design students	Hogeschool Utrecht	13/06/2024	Getting inspired by others insights and ideas	Listening to presentations and discussions	Type and amount of participants: 4/5 student groups Supporting materials: / Data collection: Written notes

Table FIXME:



# Appendix 3: Raw insights clustering statement cards

## Statement cards inclusive play day at playground De Hoef

**Statement cards**

<p><b>Meer contact</b> Een van de oprichters van InContactBijzonder vertelde ons dat er meer contact nodig is tussen alle verschillende ouders en kinderen</p>	<p><b>Stapje voor stapje</b> Het inclusiever maken van de samenleving / buiten spelen, gaat stapje voor stapje. We moeten elkaar helpen, informatie delen en niet zomaar opgeven.</p>	<p><b>Jong geleerd is oud gedaan</b> Als kinderen met en zonder handicap al vroeg in aanraking met elkaar komen, dan is zijn ze niet meer onbekend voor elkaar en gaat het contact soepeler</p>	<p><b>Ouders rustmoment / begrip ouders onderling</b> Bij het samen spelen is het zo fijn dat je als ouder even een kopje koffie kunt pakken of naar de wc kunt gaan en iemand anders even oplet</p>
<p><b>Inclusieve school → leren van elkaar</b> Inclusieve scholen zijn een wens, maar een ver streven. Een moeder zei dat de ontwikkeling van haar kind anders is afhankelijk van de school &amp; begeleiding. Verschillende kinderen kunnen veel van elkaar leren</p>	<p><b>Ouders zijn heel druk &amp; afhankelijk van doorzettingsvermogen</b> Ouders zijn heel druk bezig met alles rondom hun kind. In scholen zoeken gaat bijvoorbeeld heel veel werk en doorzettingsvermogen in zitten.</p>	<p><b>Veilig voelen op speelplek</b> Van belang om kinderen en hun ouders veilig te laten voelen op de speelplek, hierdoor komen ze vaker terug, wordt er meer contact gelegd tussen verschillende kinderen en voelen anderen zich ook meer welkom.</p>	<p><b>Schaars &amp; Gewenst</b> Kinderen en hun ouders komen van ver naar de speeldag. Het is dus speciaal en nodig dat ze er ver voor reizen, maar het blijkt dus ook dat ze het niet in de buurt kunnen vinden</p>
<p><b>Dagelijks leven</b> Een van de oprichters van InContactBijzonder vertelde dat de wens is dat het inclusief spelen / contact met elkaar meer in het dagelijks leven is geïntegreerd en niet dat er altijd veel moeite voor gedaan moet worden</p>	<p><b>Onderprikkelend</b> Kinderen met een beperking kunnen onderprikkelend zijn. Het is belangrijk om ze te prikkelen. Prikkelen kan met muziek, geluid, sensorische prikkels, etc.</p>	<p><b>Sensorisch spelen / contact</b> Contact met de handen voelt fijn voor kinderen met een beperking. Bij de handmassage zagen kinderen er relaxed uit of de aanrakingen voelde grappig en ze reageerden hierop. Met schuim spelen voelt fijn met de handen. Bij de voorstelling van de lachende zon konden kinderen pluuche wezens aanraken die bewogen werden door de artiesten.</p>	<p><b>Samen bezig zijn met handen leidt tot contact</b> Naast kinderen spelen met de handen in het schuim, leidt tot contact met kinderen. Eerst zelf bezig zijn, daarna high fives geven met het schuim tussen onze handen → schuimontploffing!</p>
<p><b>Fysiek contact met zichtbaar gevolg → vroege (Actie → Reactie)</b> Schuimontploffing! Het fysieke contact met een zichtbaar gevolg: het schuim ontploft als we onze handen tegen elkaar aan doen, leidt tot contact</p>	<p><b>Grenzen aangeven</b> Voor sommige kinderen in spel is het lastig om grenzen aan te geven, hoe kan dit het beste gedaan worden in contact met het kind?</p>	<p><b>Samen muziek maken → toegankelijk &amp; rust &amp; community</b> Samen muziek maken kunnen veel kinderen doen, was te zien bij de voorstelling Amigo. Verschillende dingen werden uitgedeeld om muziek te maken. Ouders en broertjes/zussen. Helpen mee, door een deel van de instrumenten vast te houden, zodat het kind erop kon slaan.</p>	<p><b>Verhaal vertellen</b> Met een verhaal vertellen kun je contact maken met kinderen. Het verhaal kan mee naar huis worden genomen door een tekening. Het verhaal kan ook iets overbrengen: bijvoorbeeld een verhaal over zelfvertrouwen</p>
<p><b>Contact met naam</b> Er was een kind met een handicap die Rosa haar naam had onthouden en zo opnieuw contact zocht met haar</p>	<p><b>Iets fysieks in de wijk voor contact</b> Vanuit studente haar afstudeerproject was het idee om iets fysieks langs te laten gaan in de wijk, iets terugkomends, niet online. Ik moest denken aan de ijscoman die met een herkenbaar geluid langs komt of een stoepkrijt route die je kan volgen</p>	<p><b>Veel verschil in kinderen met een beperking</b> De beperkingen van kinderen waren heel verschillend. In wat ze bijvoorbeeld kunnen ze mobiliteit. Wat ze leuk vinden. Alhoewel er in dat contact ook overlap zit zoals boven te lezen</p>	<p><b>Omringd door ouders</b> Kinderen met een beperking waren veel omringd met hun ouders in de speeltuin (en broertjes en zusjes, maar die gingen ook vaak hun eigen gang). Bij een vraag wie de beste vriend van het kind was, zeiden ze 'dat zijn papa en mama'</p>
<p><b>Kinderen &amp; ouders aanspreken</b> In de voorstelling spraken de performers de kinderen en de ouders aan met hun vragen.</p>	<p><b>Ongelukjes</b> Met spelen kunnen er ongelukjes voorkomen. De twister dobbelsteen werd per ongeluk tegen een ander kind aangepoeld. Het kind werd aangespoord om sorry te zeggen</p>	<p><b>Verkeerd inschatten beperking</b> Verhaal vanuit Rosa met de skigroep: Soms niet te zien hoe iemand zijn brein is als ze een lichamelijke handicap hebben. By een meisje dat niet kon praten en spasme had. Mensen mensen behandelen haar wel soms als een klein kind.</p>	<p><b>Beweging en snelheid</b> Vanuit Rosa: met skien vinden veel de snelheid die ze maken leuk. Bij de speeldag: een meisje ging met rolstoel op de trampolijn, je zag haar genieten van de beweging.</p>
<p><b>Communiceren met geluid op afstand</b> Zelf uitgeprobeerd in de speeltuin: van een afstandje communiceren met elkaar (met rosa) je kon elkaar alleen niet zien terwijl je sprak</p>	<p><b>Communiceren met bewegingen (Actie → Reactie)</b> Zelf uitgeprobeerd in de speeltuin: Wiebelbrug: contact maken met de beweging van de brug door je te verplaatsen. Zonder te praten zelfs. De brug is ook toegankelijk met de rolstoel en kan door het erover heen rollen ook bewegen</p>	<p><b>Toegankelijkheid speelplek rolstoel</b> Als er geen toegang is met de rolstoel, tillen ouders het kind op. Als het kind groter wordt is dat moeilijker of als het ver weg is. Toegankelijkheid met rolstoel is fijn.</p>	<p><b>Pluuche, levende wezens trekken aandacht</b> Pluuche, bewegende, tot leven gewekte wezens trekken aandacht (in de voorstelling)</p>
<p><b>Inrichting speeltuin: vrijheid en avontuurlijk vs overzicht</b> Inrichting speeltuin: veel groen en groot en verschillende speelplekken. Heel leuk omdat het avontuurlijk is, maar ouders kunnen ook sneller hun kind uit het oog verliezen</p>	<p><b>Hulpmiddel als onderdeel van outfit</b> Kind met spaiken (ondersteuning bij de benen), die kleurrijk waren: aantrekkelijke look voor kinderen / onderdeel van hun outfit</p>	<p><b>Educatie kinderen bij contact in speeltuin</b> Moeder van kind in rolstoel legt aan andere kinderen uit hoe de sondevoeding werkt. Het contact komt door iets te zien wat ze niet kennen</p>	<p><b>Broertjes/zusjes: voorkeuren buiten spelen &amp; aangewezen zijn op elkaar</b> Broertje of zusje kan van bijvoorbeeld klimmen houden, dan wordt het moeilijker om samen te spelen. Als ze alleen zijn, spelen ze wel meer samen, zijn dan meer afhankelijk van elkaar</p>
<p><b>Free play blijft aantrekkelijk op wat latere leeftijd</b> Zoon is bijna 12, vindt het buiten spelen soms wat kinderachtig worden. Maar als we bijvoorbeeld buiten op het strand zijn, merk je toch hoe leuk hij het vindt.</p>	<p><b>Invloed op wat er wordt gemaakt</b> Een mevrouw die portretten maakte, maakte echt contact door te vragen wat hun lievelingskleur is, om het zo passend bij het kind te maken. Het kind heeft invloed op de tekening, ook al tekent het kind niet zelf.</p>		

# Statement cards play moment 1 at playground Kloosterplantsoen

**Statement cards**

<p><b>Autonomy - met broers weg</b> Moeder vertelde: haar jongste kind met een beperking ging met zijn broers op uitje met het OV - dit vond hij helemaal geweldig ook al haalden ze alleen een muffin en drinken bij een station</p>	<p><b>Verscheidenheid aan bewegen</b> Sportcoach vertelde dat het goed is om kinderen niet op een specifieke sport te zetten, maar juist verschillende oefeningen en sporten te laten doen - buiten bewegen</p>	
<p><b>Autonomy - kiezen wat ze willen doen</b> Een jongen wilde van het tikkertje spelen naar het voetballen. Dit mocht van de sportcoach, als hij even het rondje mee afmaakte. Daarna woesh, was hij weg</p>	<p><b>Verschillende behoeftes kinderen</b> Vaak werd er door de sportcoach gevraagd wat ze wilden doen. Ook waren er 2 activiteiten tegelijk, zodat kinderen konden kiezen wat bij hen aansloot.</p>	
<p><b>Outfit belangrijk</b> Een meisje wilde niet mee doen met het rollen, omdat ze een nieuwe outfit aanhad waar ze veel waarde aan hechte.</p>	<p><b>Activiteit samen vs In eigen wereld</b> Veel van de kinderen popelden om een activiteit met zijn allen te doen. Een andere jongen was juist helemaal in zijn eigen wereld aan het spelen en klimmen en kwam niet gelijk naar ons toe voor een activiteit.</p>	
<p><b>Activiteit is uitnodigend</b> Een kind zag dat Rosa met de bal met klittenband met een ander kind aan het overgooien was en vroeg of ze mee mocht doen.</p>	<p><b>Makkelijker om mee te doen, maar ook vasthouden aan bekenden</b> Bij een kind was de oudere broer van 13 ook mee, waardoor het voor hem makkelijker was om mee te doen</p>	
<p><b>Kennis kinderen uit zich in inclusieve activiteit</b> Verstoptertje: Kinderen (zonder beperking) maar wel veel ervaring met kinderen met een beperking, voelde goed aan dat ze iets meer in het zicht voor hem moesten staan en bijvoorbeeld geluid kunnen maken om hem een bepaalde kant op te sturen.</p>	<p><b>Contact: verschil in 'behendigheid' &amp; laten zien wat je kan</b> Een meisje vroeg of ze er langs mocht, maar meisje met beperking was net bezig daar met klimmen. Niet zo veel geduld was er aan het begin. Later wel meer in gesprek en zei ze: 'tot later!' Ze ging in contact door te laten zien wat ze kon</p>	
<p><b>Spannende dingen overwinnen</b> Moeder van kinderen die mee deden vertelde dat ze paardrijles geeft aan kinderen met gedragsproblematiek. Ze liet hen spannende dingen proberen (ogen dicht, armen niet gebruiken). Dit vonden ze spannend, maar overwonnen ze toch (met het vertrouwen dat er iemand bij is)</p>	<p><b>Gesprek tijdens iets dat je bezig houdt</b> De sportcoach ging in gesprek met een kind, terwijl ze boter kaas en eieren speelden, op hun eigen hoogte.</p>	
<p><b>Reactievermogen in fysiek vs sociaal contact</b> Jongen kan heel goed klimmen, ookal is zijn reactievermogen minder snel. Hij doet dat meer op gevoel. Maar in contact met anderen loopt hij dan soms achter</p>	<p><b>Ouders belerend → belemmerend</b> Moeder die daar was laat bijvoorbeeld hun kinderen helemaal vies worden met buiten spelen, maar er was laatst een kind en had een paar spetters modder op haar broek en ze durfde niet meer verder te spelen, omdat haar moeder niet wilde dat ze vies werd.</p>	
<p><b>Openheid / keuze / passende activiteit vs iedereen doet mee met een activiteit</b> Eerst was iedereen aan het voetballen, dat was best druk en voor sommige niet helemaal bij te houden. Daarom werd er een tweede activiteit van tikkertje gemaakt.</p>	<p><b>Contact is kort</b> In ijsselstein waren twee meisjes aan het spelen, maar dreven later weer uit elkaar. (1 meisje vroeg aan de ander of ze mee mocht spelen toen ze met Rosa een bal aan het overgooien waren)</p>	

# Statement cards play moment 2 at playground Kloosterplantsoen

## Statement cards

<p><b>Aandacht trekken met geluid</b> Hoe kan je kinderen mee laten spelen zonder te vragen? Muziek/geluid laat kinderen komen zegt moeder van ervaring op camping</p>	<p><b>Kleur: begrijpelijk</b> Spellen: kleur in spel. Hierop het spel bazeren. Veel kinderen herkennen kleur. (Hoe zou dat met blinde/ slechtziende zijn?)</p>
<p><b>Vertrouwen / kennen</b> Vertrouwen bij begeleiders/zorg die ook in de speeltuin nodig is (voor kind en ouder) Bij de zorg wisselen zoveel mensen door, zijn kinderen niet gehecht, komt er iemand anders. Kinderfysio is vaak de fysio bij deze kinderen of gymdocent. Zij kennen hem dus al, dus de stap is kleiner om hiernaartoe te komen</p>	<p><b>Langs komen aan huis</b> Als grap zegt een moeder: kom langs bij iedereen met de boulderkar om de kids op te halen om te gaan spelen</p>
<p><b>Onwetende ouders</b> Sommige ouders zetten hun kind af en weten eigenlijk helemaal niet wat hier gebeurd of waar het goed voor is. Studente zei dat een vader dacht dat het precies hetzelfde als de fysio is.</p>	<p><b>Herkenningpersoon</b> Herkenningpunt van iemand die te vertrouwen is. Studente vertelde dat een ouder van een kind met een beperking, veel organiseerde vanuit zichzelf en zo bekend werd voor velen om naartoe te gaan</p>
<p><b>Vergeeten broertjes / zusjes</b> Hectisch thuis: soms worden broers zusjes vergeeten.</p>	<p><b>Focussen op wat kan</b> Kind wilde op eentje klimmen, moeder zegt om de andere te proberen: doen wat kan! Daarop focussen</p>
<p><b>Rustig moment kiezen</b> Op rustige momenten naar de speeltuin, anders teveel prikkels.</p>	<p><b>Niet naar buiten, want te eng</b> Moeder vertelde ook dat ze ook van ouders hoort dat ze het te eng/ spannend vinden om naar buiten te gaan met ze</p>
<p><b>Goede en slechte speeltuinen</b> Kleine speeltuin is in de buurt, maar is helemaal niks, mag ze zelf ook niet onderhouden. Verder voelt het niet helemaal veilig om haar kinderen daar te laten spelen.</p>	<p><b>Heft in eigen handen → niet gewaardeerd</b> Moeder zei dat ze zelf onkruid weg ging halen bij een speeltuintje in de buurt, maar de handhaving zei dat dat niet mocht.</p>
<p><b>Kind meenemen naar werk (?)</b> Zij heeft tijd om haar kinderen die niet naar school gaan mee te nemen naar de manege waar ze werkt. Ook een fijne plek voor de kinderen. Niet iedereen heeft die gelegenheid</p>	<p><b>Groeien door passend onderwijs</b> Een kind die naar speciaal onderwijs gaat speelt af en toe mee op de reguliere school bij de kleuters. Kinderfysio die haar van vroeger kent, zegt dat haar beweging en communicatie echt is gegroeid</p>
<p><b>Niet passende activiteit → niet meedoen</b> Alle kinderen gingen vandaag een rondje rennen. Een van de kinderen wilde niet mee doen, zij dat het te ver was. Toen stond hij heel lang niks te doen. Uiteindelijk gingen we met hem voetballen</p>	<p><b>Plezier in samen spelen</b> Een ander kind vond het voetballen leuk met mij. Ik zei dat ik eigenlijk weg moest, maar hij vond het zo leuk om samen met de bal te spelen dat ik toch nog even bleef.</p>
<p><b>Familie mee?</b> Hij zei dat hij wel met zijn neefje en nichtje hier wilde spelen, maar zij waren er nog nooit geweest.</p>	<p><b>Trots → laten weten</b> Deze jongen met wie ik speelde had net gerend en zei ook: zo een stuk had ik gerend! Hij vond voetbal wel leuker, maar toch iets anders gedaan waar hij best trots op was</p>
<p><b>Eigen manier met meedoen</b> Kind dat verder achterloopt, is wel lekker in de speeltuin erbij. Omringt bij ons. Ze snapt verstopperje niet, dus kan daarbij niet echt meedoen. Maar ze is er wel lekker en doet haar eigen ding, af en toe interactie met ons. Lekker buiten met anderen omringt.</p>	<p><b>Trots → laten zien</b> Een jong meisje (random in de speeltuin) riep de hele tijd opa opa opa. Ze wilde heel graag laten zien wat ze kon! (Ook al was het maar van een heel laag randje springen)</p>
<p><b>Los bezig zijn met dezelfde activiteit</b> Kinderen die voor de fysio/spelen activiteit kwamen, waren aan het voetballen op het veld. Andere kinderen gingen ook voetballen, maar naast hen. Er werd niet geïntegreerd.</p>	<p><b>Bewegen op plek vs bewegen naar andere plek</b> Bewegen op een plek is vaak toegankelijker dan snel moeten bewegen naar een andere plek</p>
<p><b>Teamwork: helpt in het contact en kan elkaar helpen</b> Samen iets in beweging brengen helpt in het contact komen met elkaar en creëert mogelijkheid om elkaar te helpen in gezamenlijke uitdaging (wat de activiteit weer toegankelijker maakt)</p>	<p><b>Naam introduceren</b> Rosa had als observatie (7 april 24 Kloosterplantsoen) dat een kind zei: meisje, meisje, en dat het andere kind zei: ik heet geen meisje. Interventie van rosa: zullen we elkaar maar even voorstellen?</p>
	<p><b>Als het er echt voor staat: doen kinderen toch liever samen dan alleen</b> 2 kinderen willen niet echt samen spelen. Wil je dit alleen of samen doen? Toch allebei samen (Op 12 april 2023: samenspeel moment en generatieve focus groep utrecht - kleine prins mytyschool)</p>

# Statement cards literature research

## Statement cards

<p><b>Inclusion vs Exclusion, Segregation, Integration</b> Inclusive play is directed to fulfilling the needs of all users in an outdoor play area, where as exclusion is directed towards meeting the needs of only part of the users. Furthermore in both segregation and integration users with different needs are still separated from each other. (Lapsett, 2023)</p>	<p><b>Unstructured play</b> ...fosters positive self-esteem, autonomy and confidence (Bento G., 2017).</p>
<p><b>Self-esteem, autonomy, self-solving abilities</b> Engelen et al. (2021) state "the lack of self-esteem, autonomy and self-solving abilities are the building blocks of the emotional barrier" (p.6).</p>	<p><b>Making friends</b> Important element in the emotional barrier: making friends (which is a social element) (Engelen et al., 2021).</p>
<p><b>Difference in abilities / speed of movements</b> Children with a physical disability can't keep up with the movements of typically developing children (Engelen et al., 2021).</p>	<p><b>Friends living far away</b> Friends of children with a physical disability often don't live near them, which make it difficult to meet up (Stichting het Gehandicapte Kind, 2023).</p>
<p><b>Special education in different city → negative effect on making friends</b> Children with a physical disability go to special education further away from their neighbourhood, which has a negative effect on their integration in society and making friends. (Engelen et al., 2021).</p>	<p><b>Not enough energy to meet</b> Children with a physical disability don't always have enough energy to meet with their friends (Stichting het Gehandicapte Kind, 2023).</p>
<p><b>Struggle to understand each other</b> Other children struggle in understanding children with a disability, and vice versa (Stichting het Gehandicapte Kind, 2023).</p>	<p><b>Negative influence of worries of parents</b> The worries of parents about their child's safety when playing outside with others, can negatively influence the self-esteem, autonomy and self-solving abilities of their child (Engelen et al., 2021).</p>
<p><b>Stimulating self-efficacy</b> ...can help in facilitating physical activity for children with physical disabilities, by building confidence, cultivating a sense of security, gaining insights into one's capabilities and increasing motivation (Bolster et al., 2021).</p>	<p><b>Stimulating autonomy</b> ...can help in facilitating physical activity for children with physical disabilities, by knowing one's boundaries, finding solutions themselves, the possibility to try out activities and trial and error (Bolster et al., 2021).</p>
<p><b>Focussing on possibilities, instead of obstacles</b> ...can help in facilitating physical activity for children with physical disabilities, by celebrating successes (Bolster et al., 2021).</p>	<p><b>Inclusive nature elements</b> Nature elements are inclusive play objects: these materials facilitate playing together, as children can make up how they use them in their play. (?????????????????)</p>

# Statement cards generative sessions with children

Verskil of je kinderen van mytyschool samen laat spelen of kinderen van mytyschool en regulier gemixt  
→ grotere verschillen onderling

Activiteiten die niet per se draaien om snelheid, behendigheid, maakte dat meer kinderen mee gingen/konden doen (het gevoel hadden dat ze mee konden doen en daardoor mee doen)

Het gevoel dat je mee kan doen  
Het gevoel dat je mee kan doen met een spelletje is belangrijk in het mee gaan doen. Dit wordt vermindert bij sommige spellen in hack de speelplek doordat kinderen behendiger en sneller zijn dan andere kinderen.

Als een kind geen vriendjes in de buurt heeft en het zelfvertrouwen is groot genoeg, dan durft die wel aan iemand buiten te vragen of die mee mag spelen

Kinderen die veel met broertjes en zusjes gaan hebben minder de behoefte om nieuwe vriendjes te maken, omdat ze al speelkameraden hebben

Kinderen spelen graag samen met andere kinderen

Alle kinderen zijn zoou verschillend in hoe ze denken (sommige denken dat alle beperkingen makkelijk 'op kunnen worden gelost' met technologie)

**Vanuit gesprek samen spelen: kinderen willen elkaar helpen, staan hiervoor open geven ze aan in sessie met kinderen. maar als ze met zijn allen buiten gaan spelen, gaan ze er vol voor. en hebben ze het niet door dat andere kinderen misschien wat hulp nodig hebben**  
→ kan je dit verschil inzichtelijk maken voor kinderen. Dat sommige kinderen trager zijn in dingen en hoe kan je dat bij de start van het samen spelen overbrengen.

**Minder interesse buiten spelen, omdat er niet veel 'leuke' speelplekken zijn**  
Een kind van regulier speelde niet zoveel in zijn buurt buiten, omdat er niet veel leuke speeltuinen zijn. Hij zei dat hij gamen leuker vond.

**Ohja mensen vinden mij niet raar → positieve blik van andere kinderen na negatieve ervaring**  
Kinderen van regulier onderwijs reageerden op het verhaal dat een kind van de mytyschool werd verteld dat ze besmettelijk was. Zij zeiden: je hoort misschien dat ze niet iets anders praat, maar je kan haar gewoon heel goed verstaan en toen kreeg ze en big smile.

**1. Groot verschillen bij kinderen in mogelijkheid in lichamelijke beweging → Verschil 'kunnen' gelijk zichtbaar in spellen over motoriek en snelheid nabespreken: bij hack de speelplek werd gevraagd als opdracht om in het hoogste te klimmen wat er was. Kinderen die mobiel waren raceden en klommen er gelijk op los. Kinderen die niet mobiel waren, keken wat er gebeurde en hadden het gevoel dat ze niet zoveel konden**

**2. Verschil 'kunnen' tussen kinderen gelijk zichtbaar in spellen → groeiend gevoel dat ze niet mee kunnen doen nabespreken: bij hack de speelplek werd gevraagd als opdracht om in het hoogste te klimmen wat er was. Kinderen die mobiel waren raceden en klommen er gelijk op los. Kinderen die niet mobiel waren, keken wat er gebeurde en hadden het gevoel dat ze niet zoveel konden**

**Superhelden opdracht was leuk voor iedereen**  
Hack de speelplek: leuk was de superheld (bij kinderen van regulier onderwijs en kinderen van mytyschool, ook een in een rolstoel)

**Sommige kinderen fantasieerijk in dat een beperking zo weg is**  
'daar hebben ze toch kunstarmen voor' 'dan druk je op een knopje'. Een ander kind reageerde daarop dat dat een beetje fantasieerijk was

**Stillebal: contact met ogen maken**  
Meisje van mytyschool vindt het leuk om stillebal te spelen: daarbij moet je met je ogen contact maken naar wie je de bal wilt gooien. En je mag niet praten

**1 Kind aanspreken is gemakkelijker dan een groep kinderen aanspreken**  
Kind van mytyschool ging vaak langs speeltuinen op de fiets, ook alleen, en durfde dan kinderen aan te spreken om te vragen of hij mee mag spelen

**1 Kind aanspreken is gemakkelijker dan een groep kinderen aanspreken**  
Kind van de mytyschool in rolstoel had een vriendje in de buurt gemaakt, waar hij wel eens mee speelt. Hij zag dat kind een hut bouwen en hij ging mee doen. Was daar alleen toen zei hij.

**Goed bedoelde en netjes gestelde vraag van kind over beperking, maar soms verkeerde woordkeuze**  
1. 'Dat je normaal geweest bent en nu anders bent en dat ze dan niet meer met je willen spelen'  
2. 'Eh, ja mag ik misschien weten wat voor ziekte je hebt?'

**Makkelijker om te praten, als je elkaar al een keer hebt gezien**  
'Kennen jullie elkaar nog van vorige keer?' 'Wat is er anders aan?' (dat je iemand nog niet kent)  
'Je bent wat banger, niet heel nieuwsgierig, en nu kan je gewoon van: hoe was het op school? en niet echt van, dan ben je helemaal stil'

**Negatieve reacties van onbekenden laten gaan**  
'Ik kende die meisjes helemaal niet, dus dacht boeien. Laat ze lekker praten'

**Kind zonder beperking, moeilijker om op iets te komen wat ze moeilijk vinden**  
'Wat is moeilijk voor 'naam'? 'Of wat zou ze willen leren?'  
'Rolstoel rijden'

**Kind met beperking, moeilijker om op iets te komen wat ze goed kunnen / dit te zien als iets dat ze goed kunnen**  
'Waar ben ik goed in?'  
'In rolstoel rijden misschien'  
Ze twijfelt of dat iets is waar ze goed in is

**Opdracht held → held spelen en dat dat ook zo voelt voor de andere partij**  
'en wij waren helemaal bang en jullie voelden als superhelden'

**Expert zijn ergens in brengt meer zelfverzekerdheid**  
'Kunnen jullie race doen met 'naam'? 'Ik ben toch sneller.' 'Maar veiligheid gaat voorop, dus we gaan wel uitleggen hoe het werkt' (over voor het eerst de rolstoel uitproberen)

**Buitensluiting door beperking**  
'Ze zeiden dan nee, ik wil niet ziek worden, je bent besmettelijk. Sinds dien kwamen ze me nooit meer ophalen of met mij spelen.'

**Goed bedoelde en netjes gestelde vraag van kind over beperking, maar soms verkeerde woordkeuze**  
1. 'Dat je normaal geweest bent en nu anders bent en dat ze dan niet meer met je willen spelen'  
2. 'Eh, ja mag ik misschien weten wat voor ziekte je hebt?'

**Makkelijker om te praten, als je elkaar al een keer hebt gezien**  
'Kennen jullie elkaar nog van vorige keer?' 'Wat is er anders aan?' (dat je iemand nog niet kent)  
'Je bent wat banger, niet heel nieuwsgierig, en nu kan je gewoon van: hoe was het op school? en niet echt van, dan ben je helemaal stil'

**Negatieve reacties van onbekenden laten gaan**  
'Ik kende die meisjes helemaal niet, dus dacht boeien. Laat ze lekker praten'

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'Wat is moeilijk voor 'naam'? 'Of wat zou ze willen leren?'  
'Rolstoel rijden'

**Kind met beperking, moeilijker om op iets te komen wat ze goed kunnen / dit te zien als iets dat ze goed kunnen**  
'Waar ben ik goed in?'  
'In rolstoel rijden misschien'  
Ze twijfelt of dat iets is waar ze goed in is

**Opdracht held → held spelen en dat dat ook zo voelt voor de andere partij**  
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**Buitensluiting door beperking**  
'Ze zeiden dan nee, ik wil niet ziek worden, je bent besmettelijk. Sinds dien kwamen ze me nooit meer ophalen of met mij spelen.'

# Statement cards interview orthopedagogue

**1. Ergens bij horen heeft positieve invloed op het zelfbeeld**  
VB: Kinderen die van regulier onderwijs naar de mytyschool komen hebben vaak een lager zelfbeeld → ze hoorden er daar niet helemaal bij.  
Denk aan de jeugd die zich af wil zetten, maar tegelijkertijd ergens bij wilt horen.

**Vragen om hulp voelt vaak als falen bij kinderen met een motorische beperking**  
Een doel bij behandelingen is vaak: het leren om hulp te vragen. Kinderen met een motorische beperking ervaren vaak schaamte hierbij.

**Sociale activiteiten KUNNEN positieve invloed hebben op het zelfbeeld**  
Denk aan met clubjes activiteiten ondernemen

**2. Ervaren dat iets lukt heeft positieve invloed op het zelfbeeld**  
Dat het kind het bijvoorbeeld zelf kan

**3. Acceptatie ervaren als iets niet lukt zwakt het negatieve zelfbeeld af / vergroot het positieve zelfbeeld**

**Tools voor versterken positief zelfbeeld: focussen op exposure, positieve herinneringen & muziek & dingen opschrijven**  
Exposure: ervaren hoe het is. Ervaringen kunnen het positieve zelfbeeld bevestigen.  
Positieve ervaringen ophalen, activeren en voelen. Muziek dat een goed gevoel heeft afspelen.  
Opschrijven waar ze trots op zijn, blij mee zijn, wat is gelukt (dagelijks)  
→ brein trainen op het positieve zelfbeeld

**Bij negatief zelfbeeld: negatieve stemmen gaan via de snelweg, positieve stemmen gaan via het bospad**  
Bij het verterken van het positieve zelfbeeld wil je de positieve stem meer aandacht geven, zodat deze van het bospad naar de snelweg gaat

**Zelfbeeld en (sociale) angst staan vaak in verband met elkaar**  
Vaak wordt er vanuit een angst van het kind ontdekt dat het negatieve zelfbeeld meer spreekt dan het positieve zelfbeeld

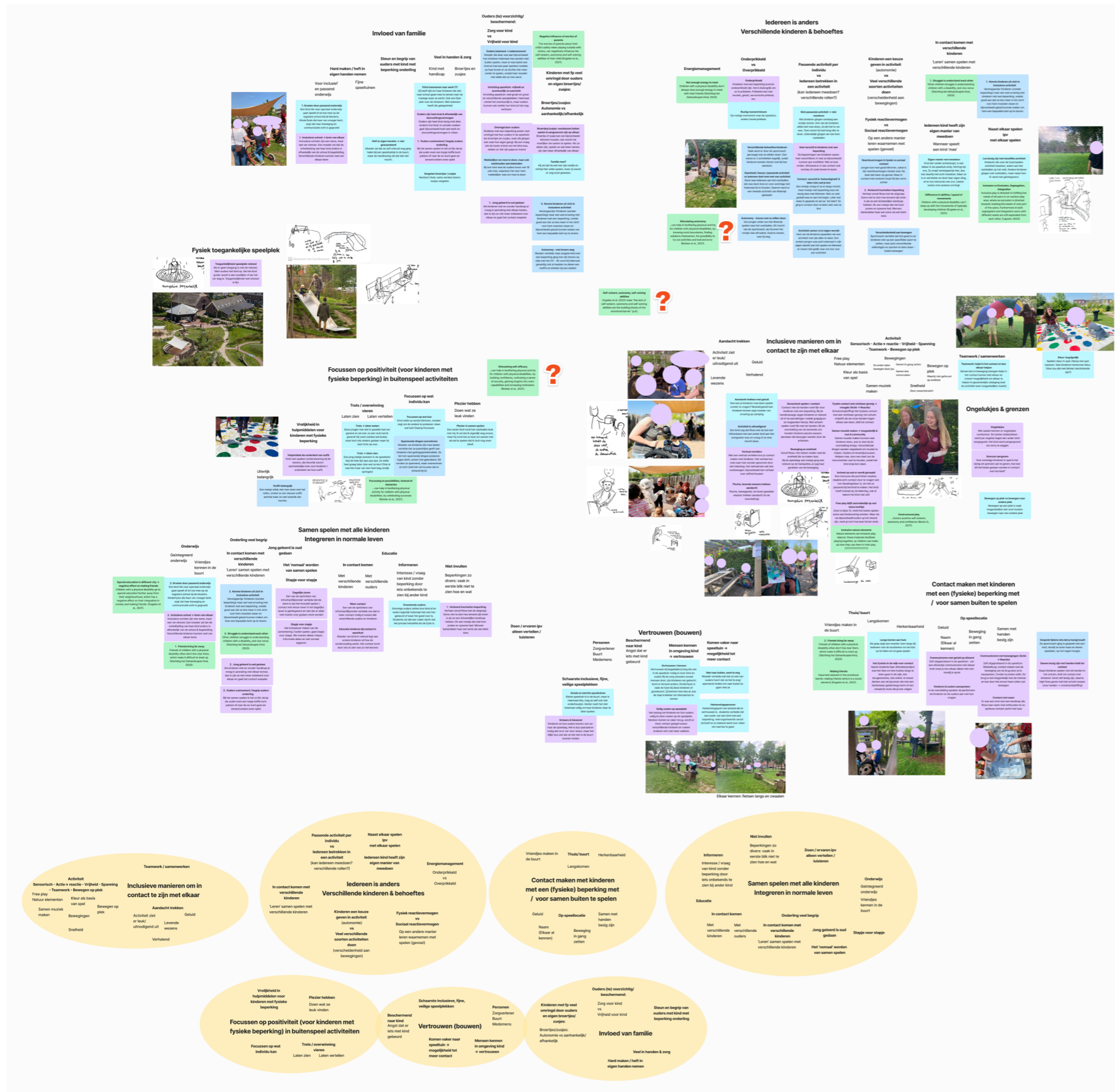
**Ergens bij horen heeft positieve invloed op het zelfbeeld**  
Het gevoel dat ergens bij te horen geeft een positief gevoel over jezelf. De relatie met anderen heeft invloed op het zelfbeeld. (Wat maakt dat kinderen voelen dat ze erbij horen. Het vinden van overeenkomsten met anderen kan hierin helpen.)

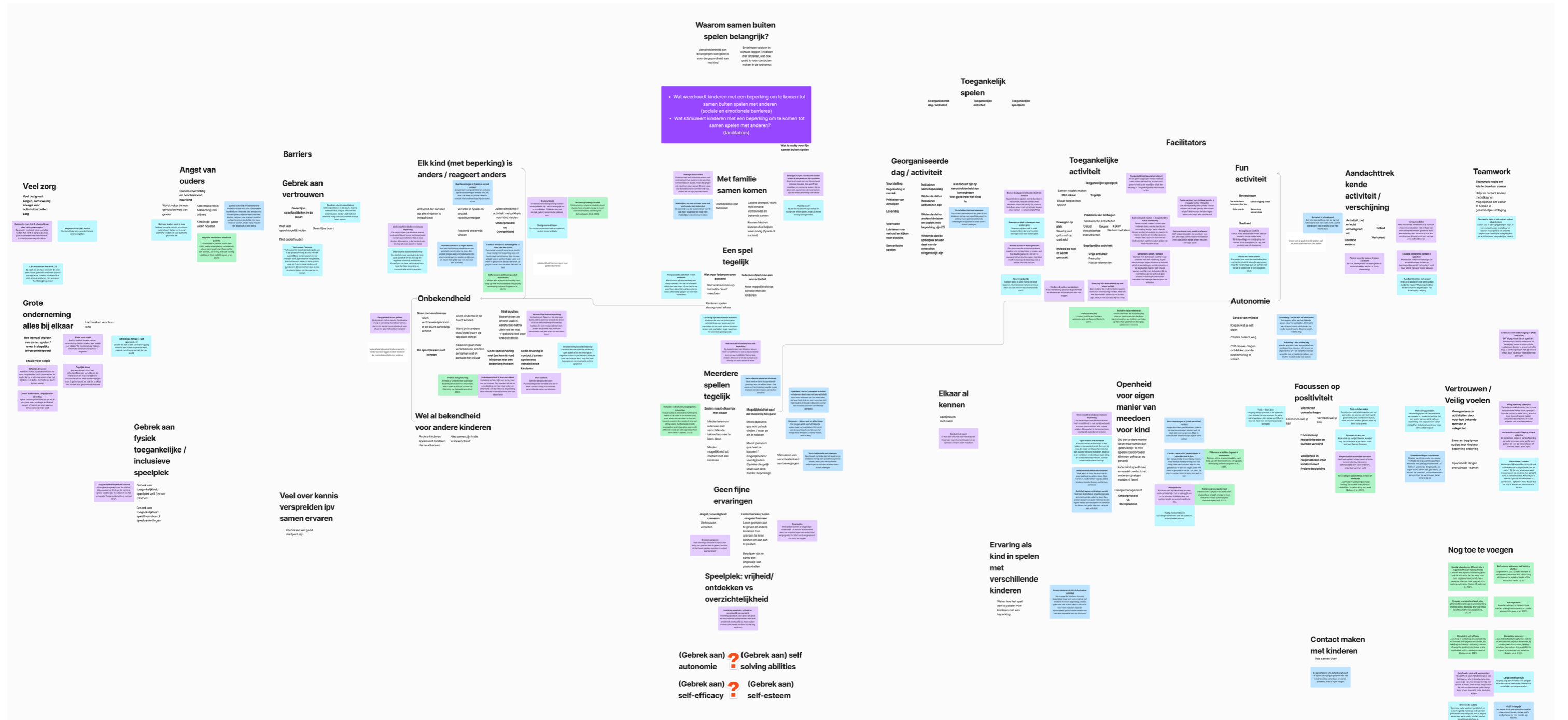
[https://www.ggznieuws.nl/rol-van-het-zelfbeeld-anders-kijken-naar-mislukking-en-succes/#:~:text=In%20Rosenbergs%20model%20is%20het,meetlen%20\(licht%20of%20zwaar\).](https://www.ggznieuws.nl/rol-van-het-zelfbeeld-anders-kijken-naar-mislukking-en-succes/#:~:text=In%20Rosenbergs%20model%20is%20het,meetlen%20(licht%20of%20zwaar).)

<https://mijn.bsl.nl/zelfbeeld/424932#:~:text=We%20maken%20onderscheid%20tussen%20twee,een%20gunstige%20versie%20van%20zichzelf.>

# Appendix 4: Raw insights clustering 3 versions

## Clustering version 1





# Clustering version 3



# Appendix 5: List of questions and themes to discuss with orthopedagogue

## Vragen gesprek orthopedagogue

### Intro / wat ze doet

- Wat doe je precies als orthopedagoog?
- Hoe komt het thema samen buiten spelen terug in het werk als orthopedagoog en in contact met de kinderen?
- Hoe zie jij zelfbeeld terug in het werk als orthopedagoog en in het contact met de kinderen?

### Zelfbeeld

- Wat voor positieve kijk op zichzelf / positief zelfbeeld zie je bij kinderen met een beperking?
- Hoe zie je dit positieve beeld terug komen bij het contact maken met andere kinderen en/of bij het samen buiten spelen?
- Wat kan een positief zelfbeeld stimuleren bij kinderen? Hoe kan een negatief beeld omgezet worden tot iets positiefs?
- Wat voor negatieve kijk op zichzelf / negatief zelfbeeld zie je bij kinderen met een beperking?
- Hoe zie je dit negatieve beeld terug komen bij het contact maken met andere kinderen en/of bij het samen buiten spelen?
- Wat kan een negatief zelfbeeld triggeren bij kinderen? Hoe kan deze omgezet worden tot iets positiefs?

### Spannende situaties

- Wat vinden kinderen (met een beperking) spannend bij het contact maken met kinderen en/of het samen buiten spelen?
- Hoe gaan zij met spannende situaties om?
- Hoe kan je hen hierin helpen?

### Zelfbeeld modellen

- Ken jij modellen uit de psychologie die goed aansluiten bij zelfbeeld (vorming) (of contact maken of emoties) bij kinderen?

# Appendix 6: Themes and subthemes paper

Found themes and subthemes in paper: Using a Co-design Approach to Create Tools to Facilitate Physical Activity in Children With Physical Disabilities

Stimulating self-efficacy	Stimulating autonomy	Focusing on possibilities	Focusing on the needs of the individual child	Collaborating with stakeholders	Connecting with a child's environment	Meaningful goal setting
Fostering confidence	Being able to deny help	Focusing on abilities instead of obstacles	Using a tailored approach	Striving for equality	Have activities take place in daily life	Relevant goals
Fostering feeling secure	Knowing who is responsible	Creative solutions	Finding suitable solutions	Finding the right support	Have activities take place in a meaningful environment	Purposeful goals
Having insight in their own possibilities	Knowing their own boundaries	Having fun	Giving the child a central position	Sharing knowledge	Including the social environment	Goals focusing on participation
Being motivated	Being able to create their own solution	Challenging solutions	Listening to each other	Monitoring the child	Fostering visibility	
	Being able to try out activities	Small steps toward goal				
	Trial and error	Celebrating (actual) successes				

Figure Fixme:

# Appendix 7: How-to's and 4 themes

## 1. 'What can small moments of contact be?'

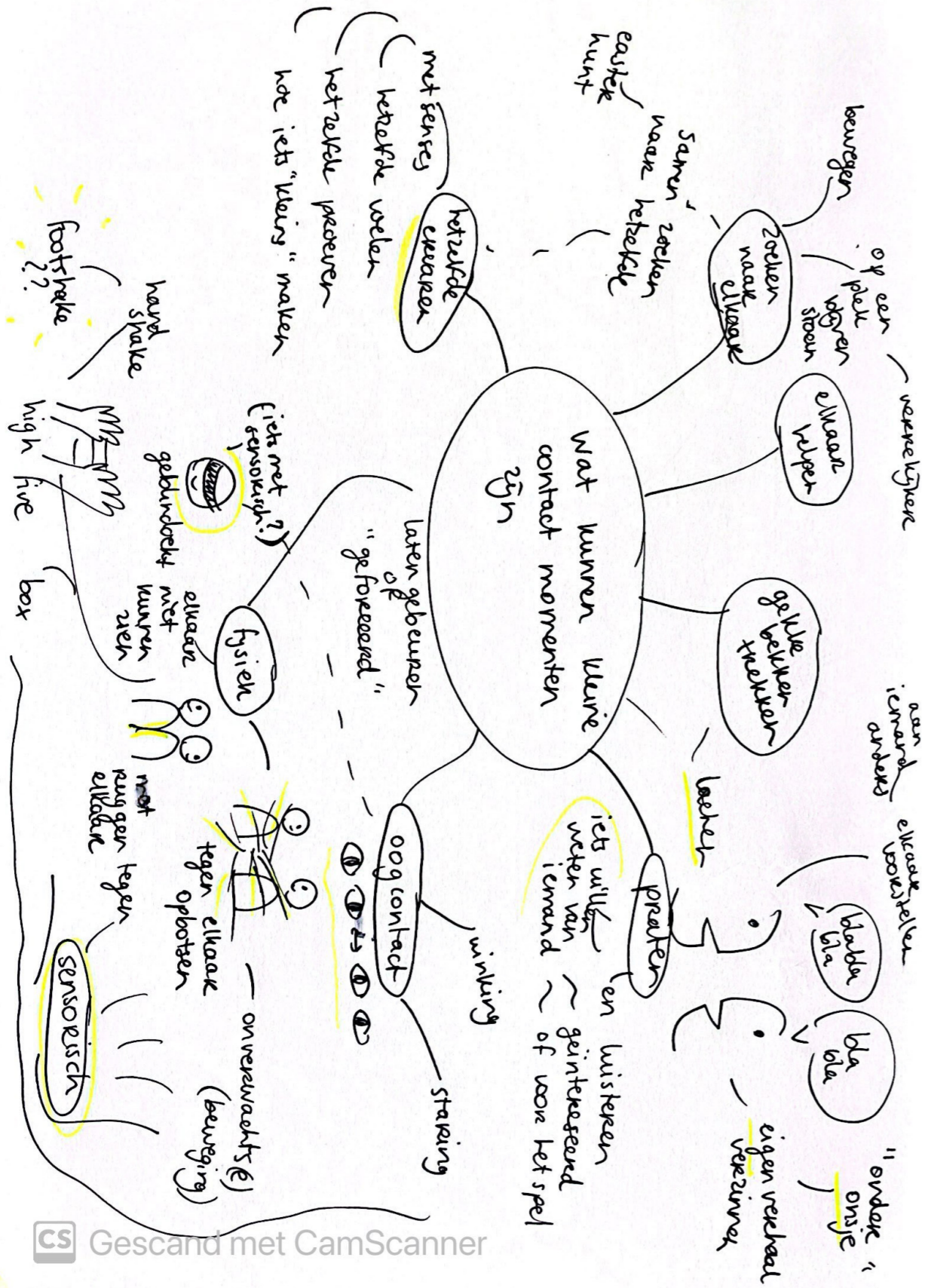


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## 2. 'How can you create/make small contact?'

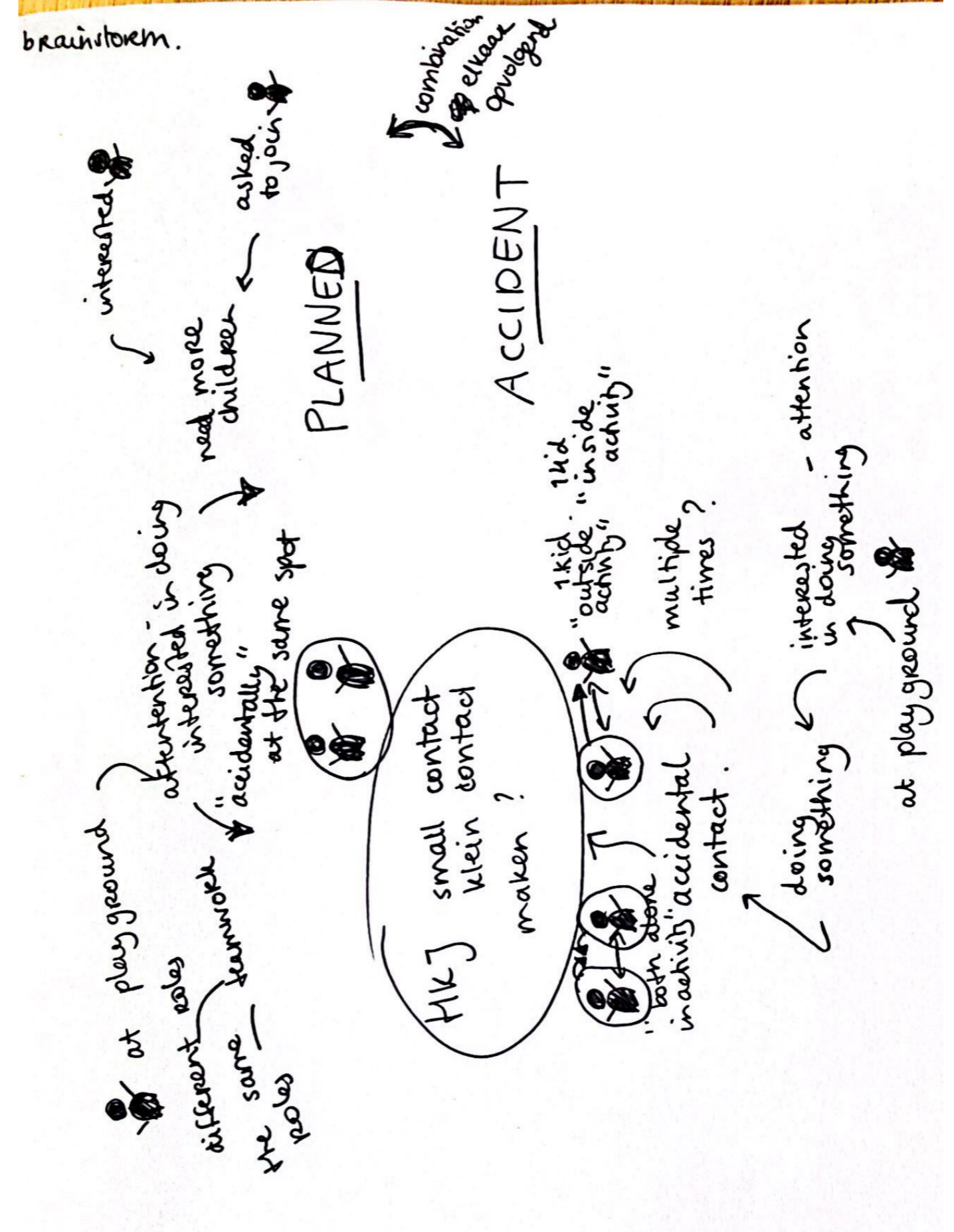


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### 3. 'Elements of inclusive outdoor play'

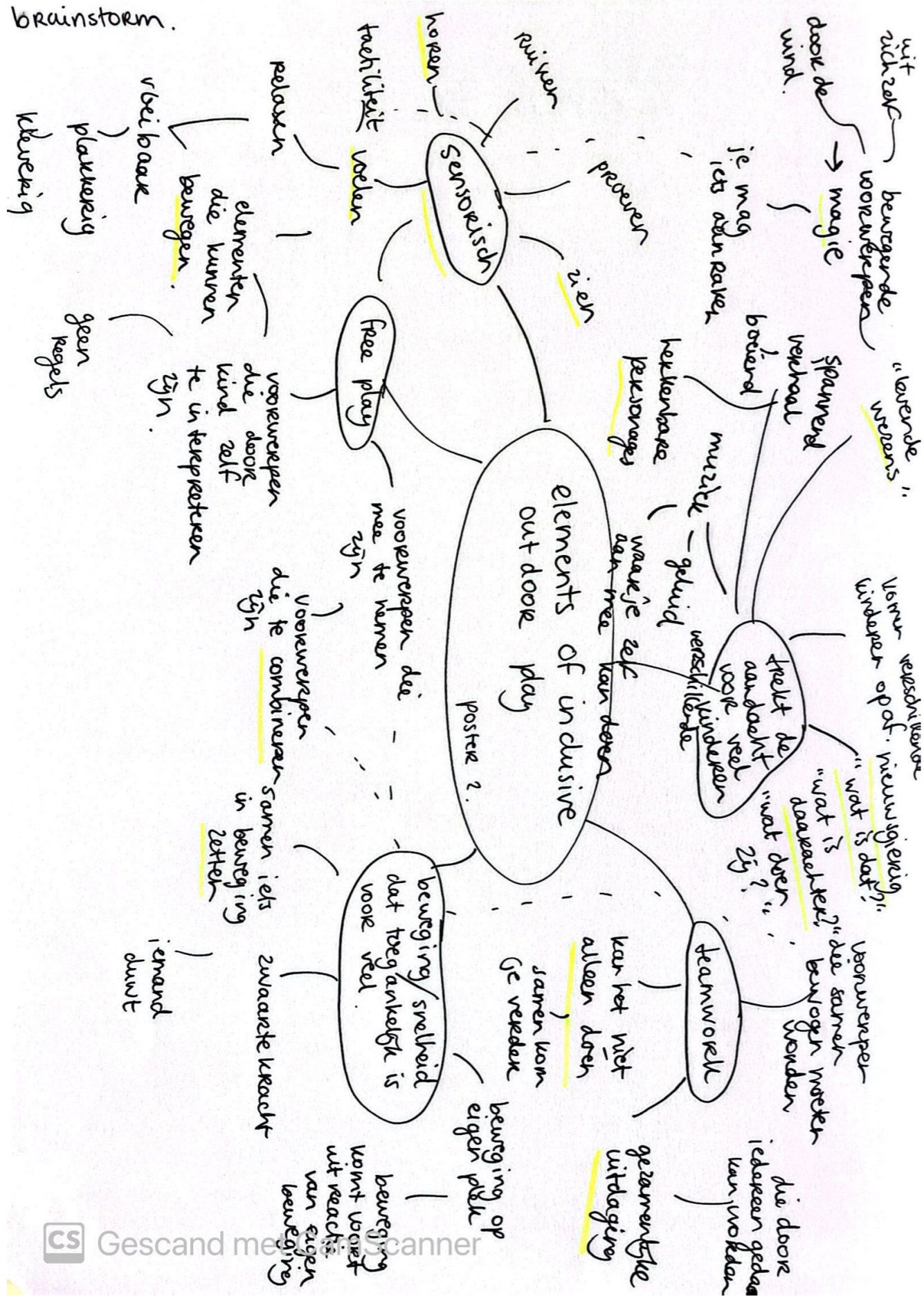


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### 4. 'How can you give someone a positive feeling?'

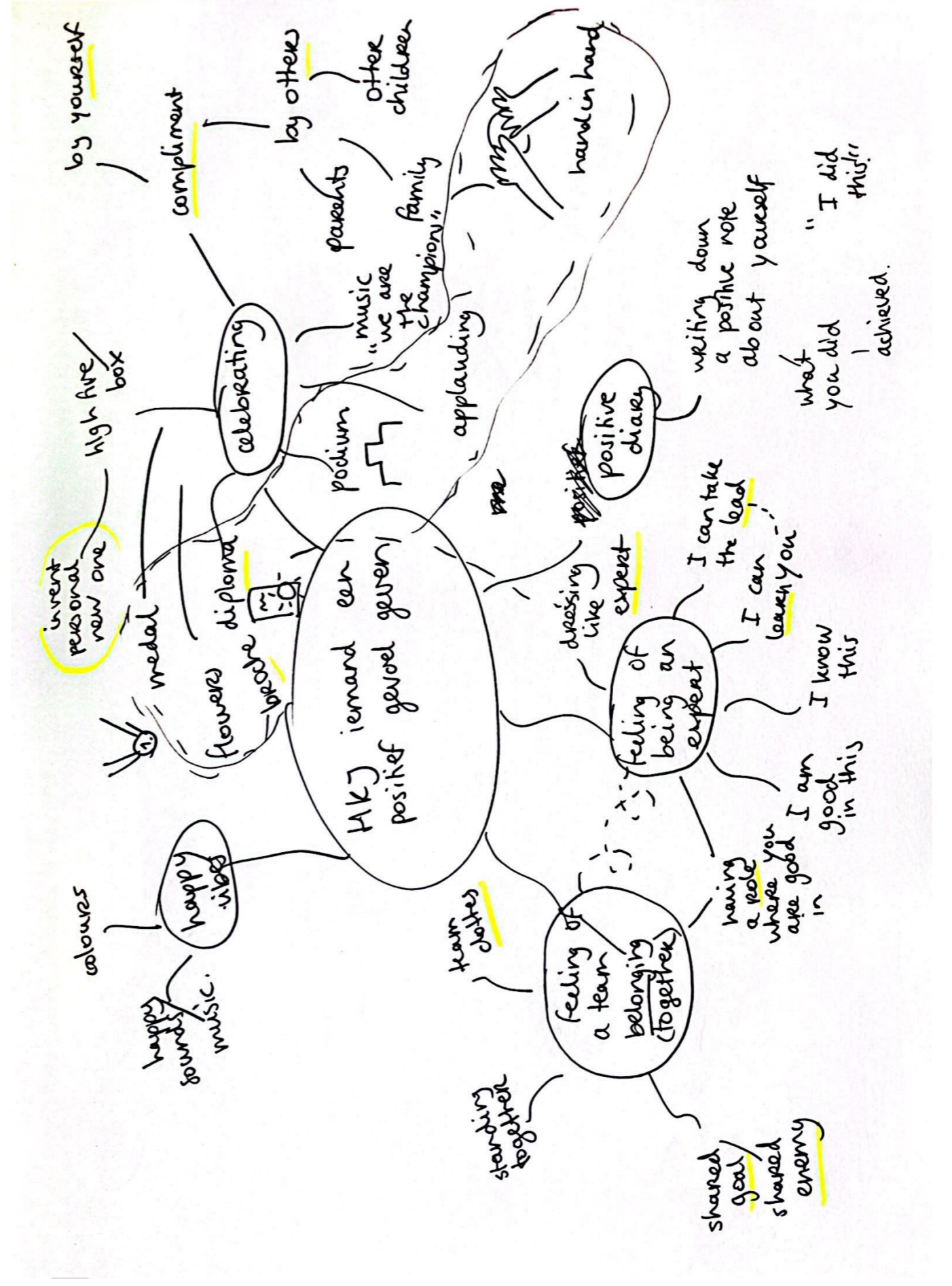


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5. 'What do different children need / what might different children need?'

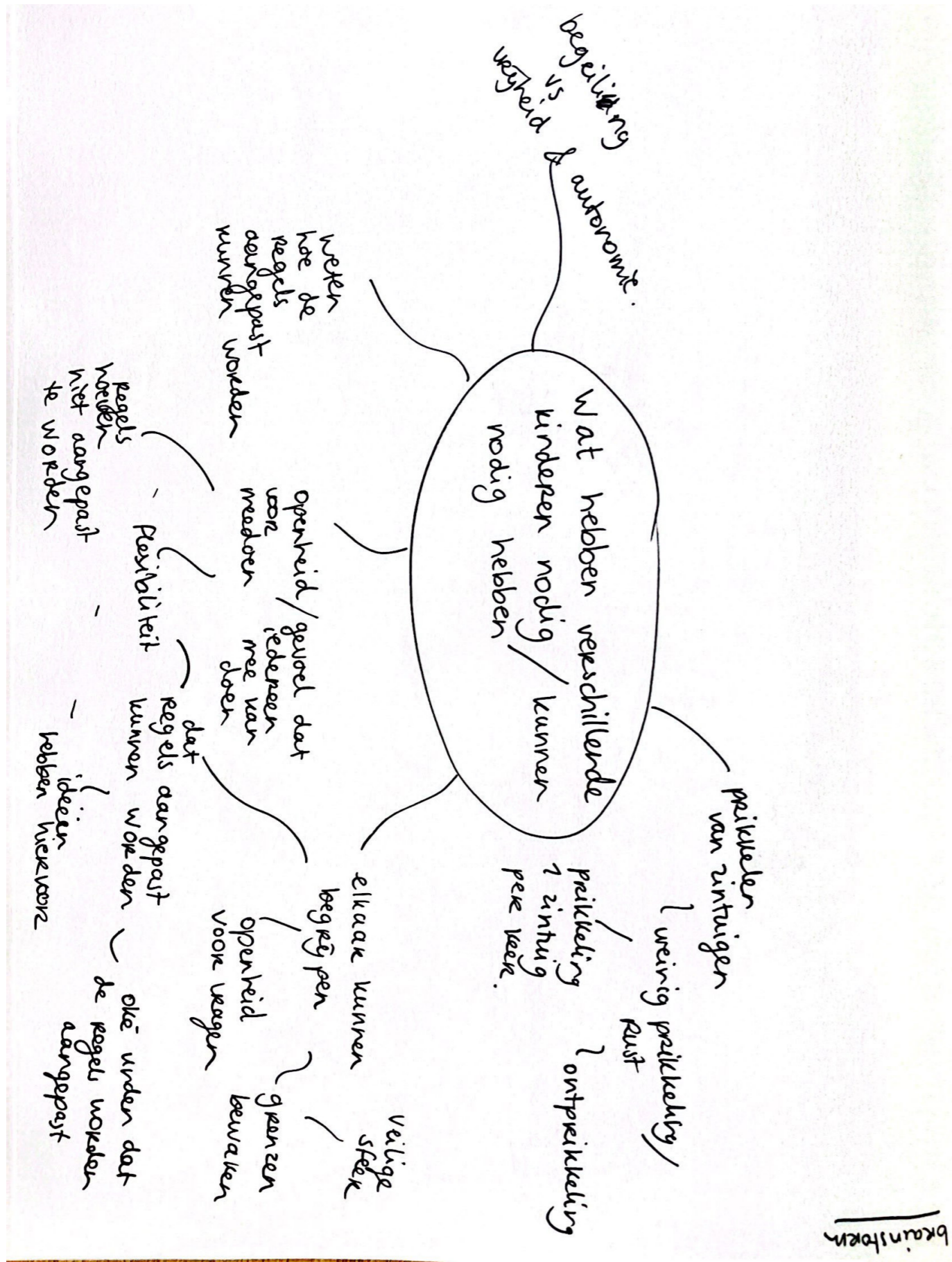


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First sub ideas

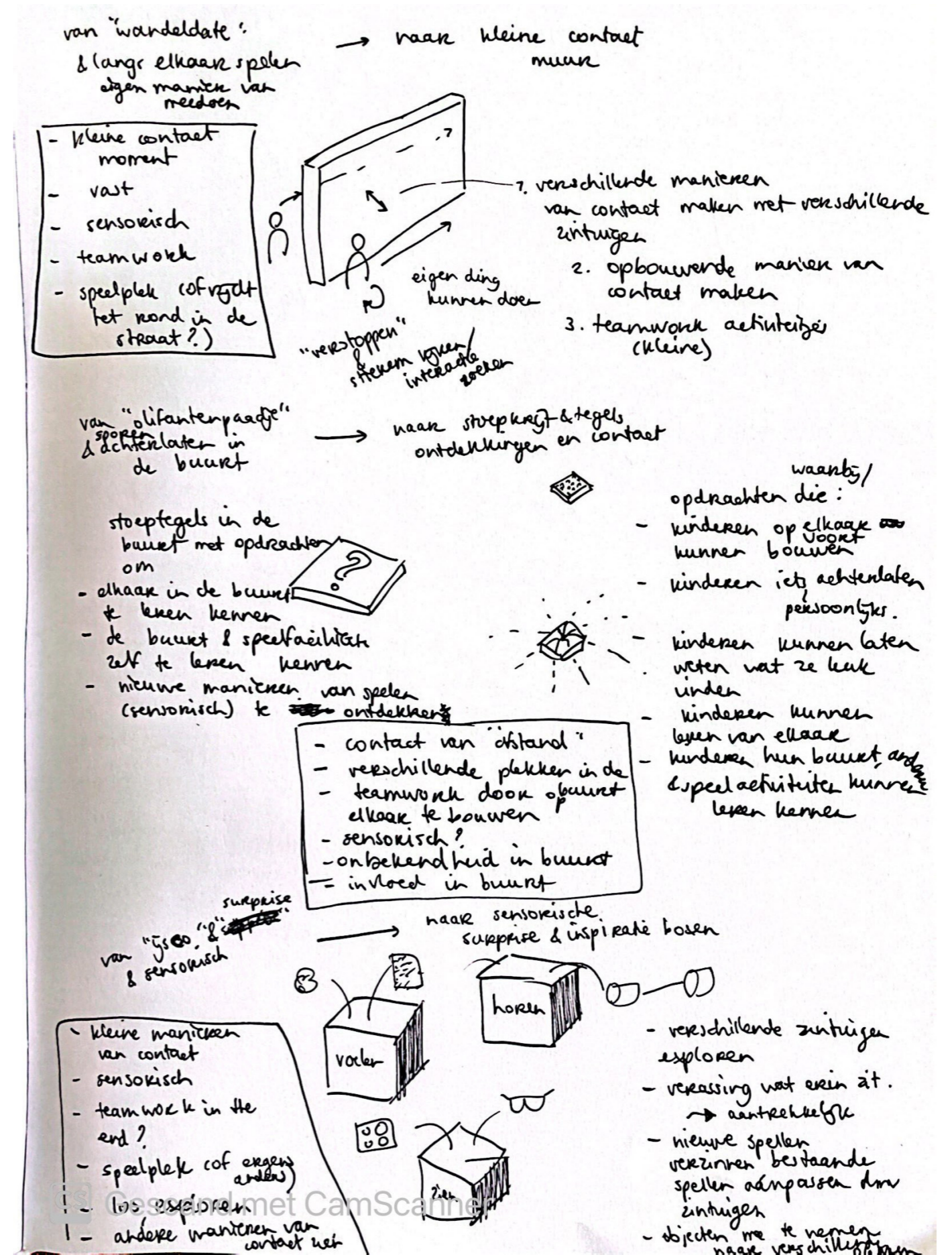
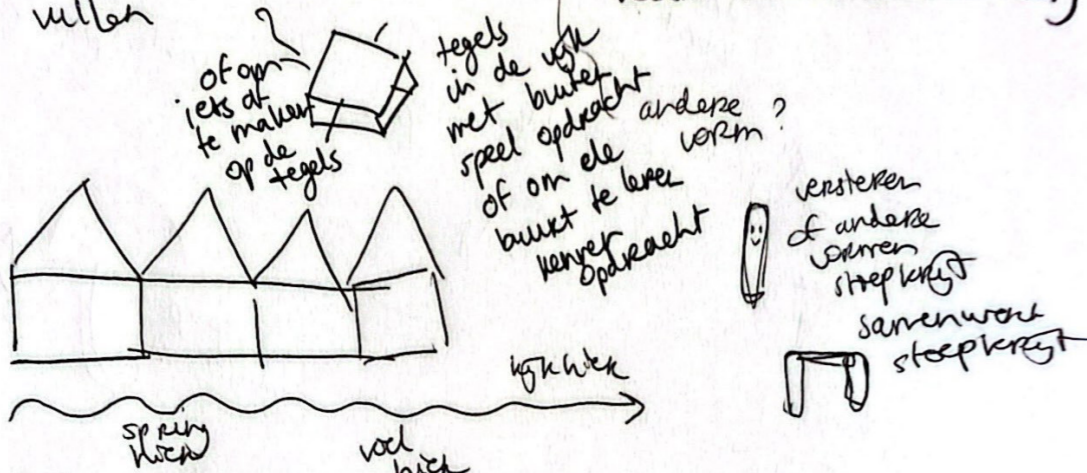


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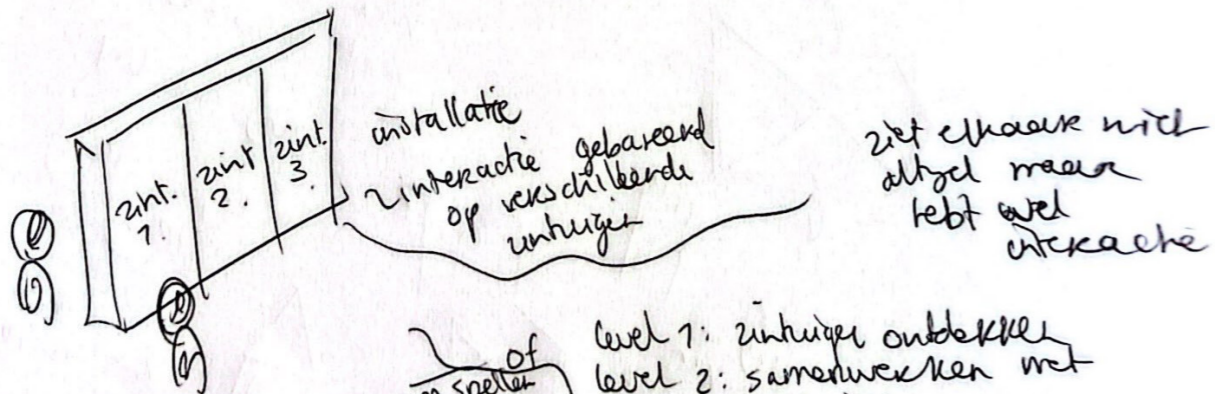
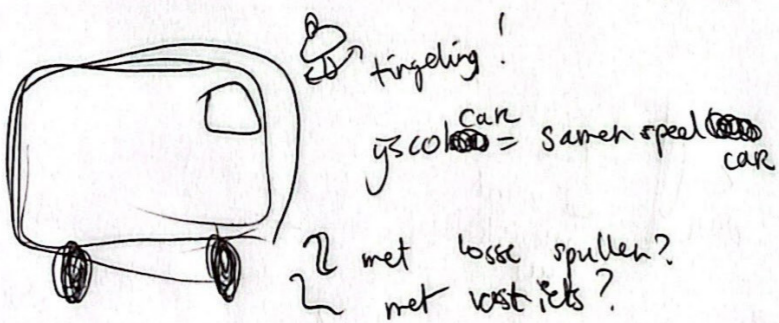
# IDEEN

steepkracht templates voor in de rok met

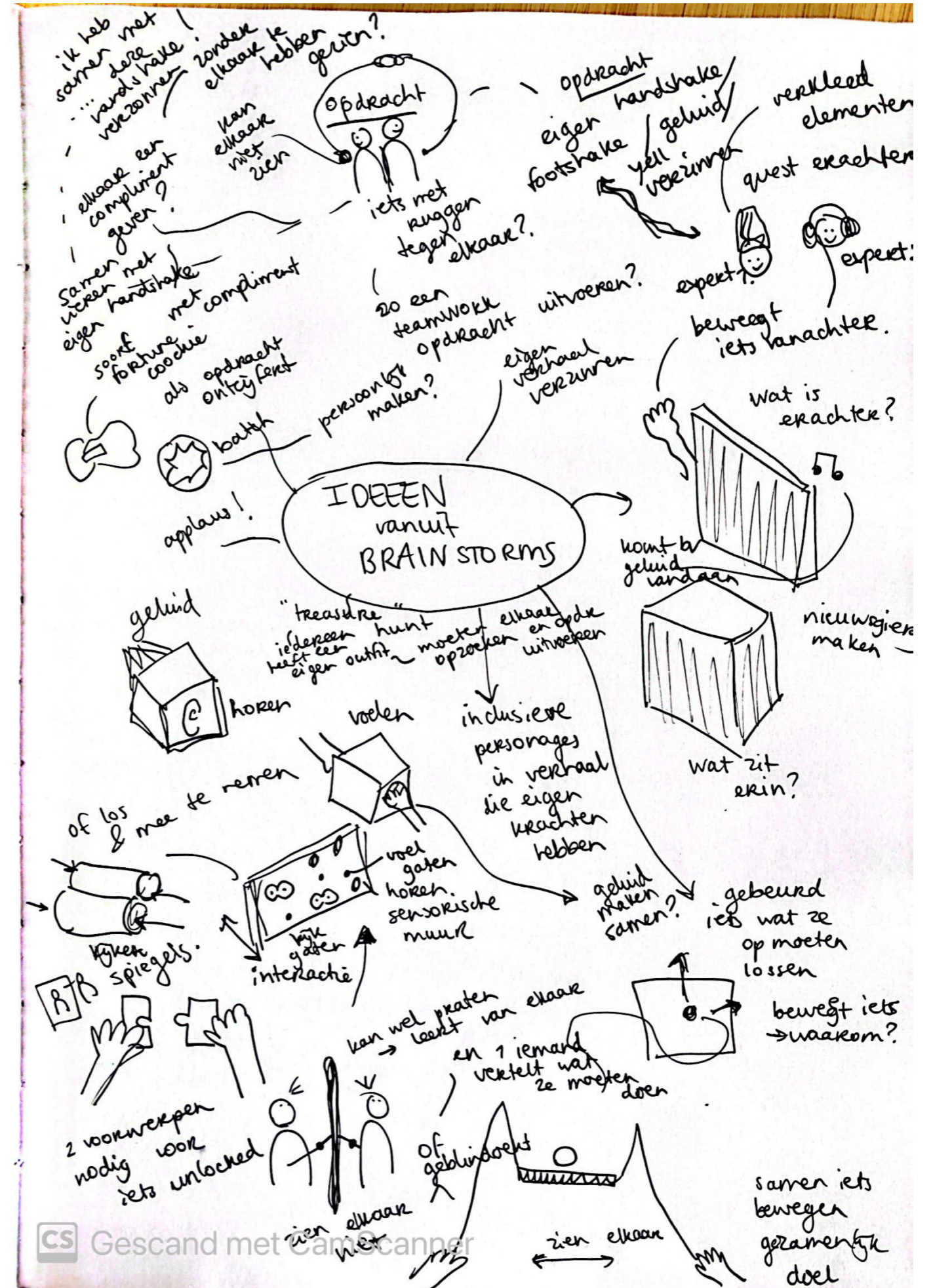
- opdrachten (sensorisch, met de buikt ontdekken te maken leidend naar de speeltuin leidend naar andere kinderen)
- vragen met dingen die kinderen in kunnen vullen



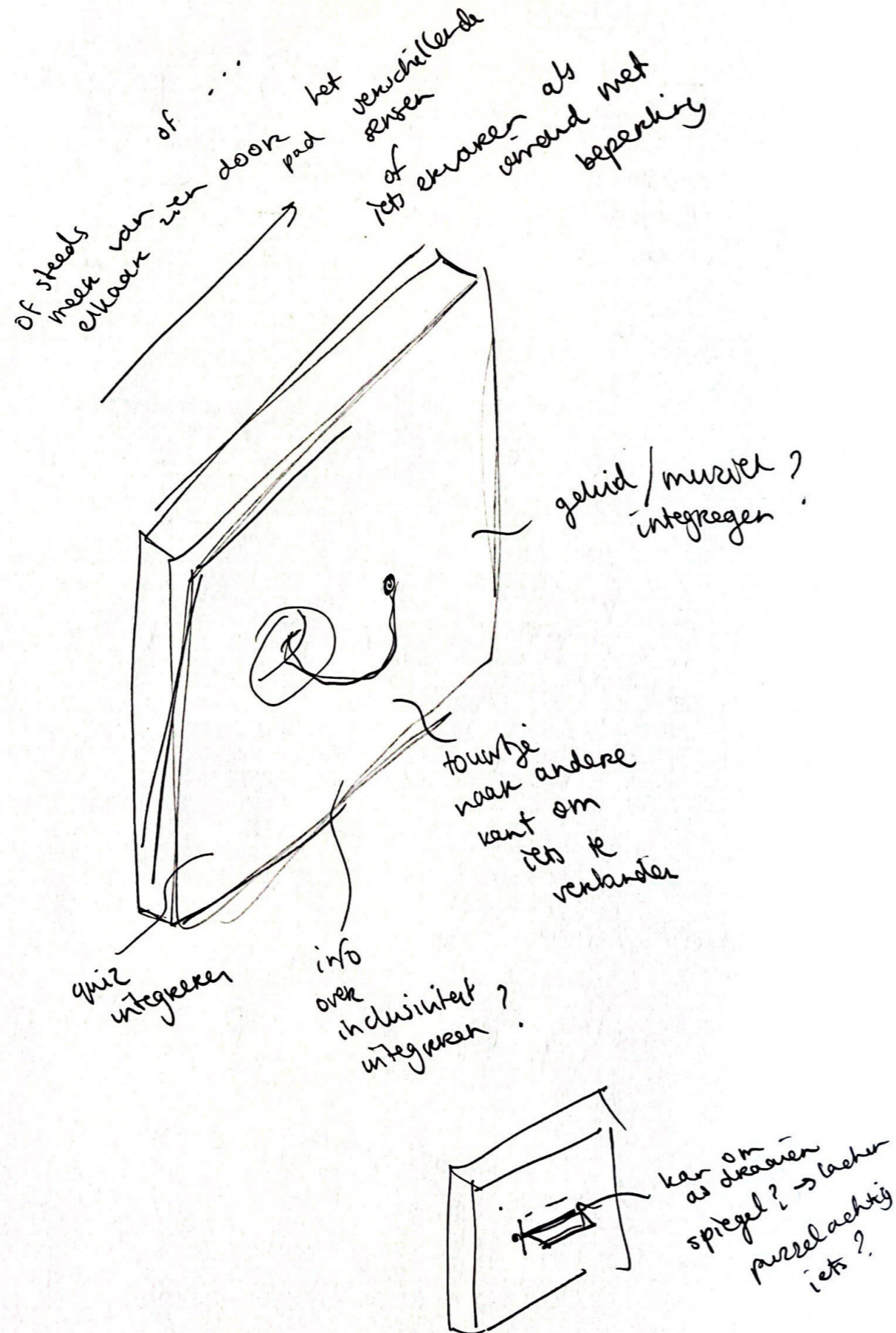
- "kijk" weg naar de speeltuin
  - "voel" weg naar de speeltuin
- niet te veel dan weer gericht op de speeltuin?   
 ipv in de eigen straat



- level 1: zintuigen ontdekken
- level 2: samenwerken met zintuigen
- level 3: nieuwe spellen verzinnen met zintuigen



# Theme: Teamwork



CS Gescand met CamScanner

Figure Fixme:

**Sharks and pilotfish**  
While the pilot fish helps to rid the shark of parasites and clean away fragments of food caught between their teeth, it benefits from protection against other predators. The companionship between these two species is said to be so strong that there are even tales of distressed pilot fish following trawler vessels months after catching "their" shark.  
<https://wildlifewoods.net/blog/2018/02/23/8-surprising-symbiotic-relationships>

**Symbiotic relationship - Biologie**  
Activiteit samen die voor allebei beneficial is op hun eigen manier

**P2 Teamwork**

**Escape room**  
Samen spellen ontcijferen en ontsnappen

**Teambuilding activities**  
Met zijn allen tegen het spel of meerdere teams tegen elkaar iedereen heeft dezelfde rol of er zijn andere rollen  
**Teamwork voor bonding**  
Je ziet misschien wel een andere kant van elkaar

**Coöperatieve bordspellen**  
**Party games** - samen lachen

**Flashmob!**  
Een iemand start en uiteindelijk doet iedereen mee. Doordat je met zijn allen danst, voel je verbonden en niet alleen (ook al is het spannend)  
Ook leuk voor omstanders, want er gebeurt uit het niets opens iets

**Gatenkaas spel**  
Kan ook samen! (vooral als ze heel groot zijn) Dan moet je samen werken want het reageert op allebei je bewegingen

**Wipwap**  
Je hebt elkaar nodig om te bewegen, maar hoeft verder niks tegen elkaar te zeggen  
Zit wel tegenover elkaar

**Vrijwilligerswerk:** Samen met onbekenden vrijwilligerswerk doen en in gesprek raken.  
(ChatGPT)  
→ voor hetzelfde daar komen, dezelfde normen en waarden belangrijk vinden

**Het Bouwen van een Brug:**  
Elkaar ontmoeten en samen spelen is als het bouwen van een brug. Aan het begin staan kinderen aan weerszijden van een kloof, nieuwsgierig naar wat aan de andere kant is. Door samen te werken, plank voor plank, bouwen ze een stevige brug van vertrouwen en vriendschap, en uiteindelijk kunnen ze gemakkelijk heen en weer over de brug lopen om samen te spelen.  
(ChatGPT)

Figure Fixme:

# Theme: Sensory activities

**Vormen maken met object en lichaam**  
Grouping material and yourself

**Met water**  
Alleen, maar toch samen aan waterwerk werken

**Knikkaren**  
Ook kleine interactie

**Beelden**  
Bouwen met verschillende kleuren en vormen

**Spelen met tactielek**  
Het is een soort optische illusie, het moet je veel zachter dan je denkt

**Verspreiden**  
Year something with small!

**Belevende voorwerpen**

**Draaien**  
Creëren door te draaien en verschillende combinaties te maken

**Voetbak**  
Zonder te kijken voelen Of kijken zonder te voelen Of misschien wel er iets te horen?

**Fidgettoys**  
Pluizen, draaien, knippen, knopen, voelen

**Spiegels**  
Iets vanuit ander perspectief zien Lachspiegels Beïnvloeden...

**Kikker en vogel perspectief**

**P2 Sensorische activiteiten**

**Verspreiden zintuigen**  
5 zintuigen: kijken, horen, zien, voelen, proeven

**Playing with the perspective you see things from**  
From above, upside down, shadow display.

**Bean boozled**  
Challenge: wie krijgt de vries wie krijgt de lekkere smaak?

**Playing with lights and colors**

**Beweging maakt ook geluid**  
Tandwiel  
Tandwiel geluid, klatterende balletjes

**Tandwiel  
Actie, reactie, iets in beweging zetten**

**Sun-sensing butterflies**

**Spelen met schaduw**

**Met elkaar praten / geluid maken op afstand**

**Samen schermen om een ledje te creëren**

**A lovely example of collaborative play in public space in the musical installation 21 belongs to Montreal, by Dan+Tina. Les toots which played notes on being used and encouraged people to swing more to create more music.**

**21 Belongs (21 belongs)**  
2020, Montreal, Canada

**Met elkaar praten / geluid maken op afstand**

**Samen schermen om een ledje te creëren**

**Het straatstroom bij RAUM**  
Verschillende materialen en opstellingen die klassieke contact maken en spelen faciliteren

**Het straatstroom bij RAUM**  
Awareness about barriers hindering interaction in public spaces while meeting people to experience these inconveniences "A situation that cannot be dimmed" A bench where you cannot see each other!

**A place to look forward to**

**Why sit when you can play?**

**Aanrakingen maken geluid**

**Sensatieve Paden:**  
met verschillende ondergronden zoals gras, stenen, zand, en hout, waar op kleine voeten verschillen kunnen lopen. (Kraai(21))  
→ kleine voeten pad!

Figure Fixme:

# Theme: Grabbing attention

**Vergroten!**  
Mega grote lichtknop nodig uit om erop te drukken

**Jezelf kenbaar maken**

**Weer spelen met licht**  
Om een message te verspreiden

**Superheroes**

**Alles begint met licht**  
Client: Het Nieuw Utrechts Toneel  
This installation sparks a conversation about the essence of faith, what it means to you, and whether it holds significance in your life. When you activate the button, the shadow of the text becomes visible, bearing the message: "Everything begins with light." On the back of the installation, you can affix stickers to indicate where you position yourself. Do you find yourself in the dark, in the twilight, or in the light? This engaging collaboration serves as an opening dialogue for a performance presented by Nul in 2022.

**Ijoccart - Geluid als herkenbaarheid en weten datie eraan komt, komt langs bij je haal, lekker dichtbij, en het is lekker**

**Kinderen de regie geven**

**Ouders zeggen op elke vraag je dag**

**P2 Aandacht trekken - woestaantrekkelijk**

**Iets nieuws met technologie**

**Door kleur en suggesties van spelen op ondergrond welkom gevoel voor bezoekers om hier te komen -community & sense of belonging**

**Muziek en geluid**

**Beton-T, Ik mag hier zijn**  
During a community engagement initiative, we explored ways to enhance the accessibility of the Beton-T area for a broader audience, with a particular focus on fostering a sense of belonging. Through interactions with residents during neighborhood walks, we discovered that there was uncertainty about permissible activities on the square and designated areas. As a response, we developed a unifying pathway that guides individuals onto the square, adorned with inspiring phrases such as "I am welcome here," "I am free to wander," and "I am free to dance," incorporated along the pathway are various interactive elements and objects designed to stimulate both activity and tranquility, creating a dynamic space that caters to diverse preferences within the community.

**Steenmanetjes**  
Traces van verschillende mensen Leiden je de weg Wordt bijna een soort kunstobject Ook een soort teamwork - samen zo hoog mogelijk bouwen

**Olfanten paadje**  
Traces achterlaten - meer en meer na meer gebruik → Laat zien aan anderen, nodig uit om dit ook te lopen Efficiënter

**Stoepkrijten**  
Activiteiten kom je tegen (of voor elkaar maken) Verasend om tegen te komen Blijft een tijdje liggen Je kan op elkaar reageren Je kan de omgeving van de buurt gebruiken

**Vallende Sterren:**  
Plotseling contact tussen mensen is als het zien van een vallende ster aan de nachtelijke hemel. Het is kort, maar het laat een blijvende indruk achter en creëert een moment van verwondering en verbondenheid.(CharPT)

**Paddenstoel in Etelling met geluid**  
Trekt de kinderen aan op een subtiele manier door het geluid en de herkenbaarheid van de paddenstoel.

Figure Fixme:

# Theme: Small contact

**First Date**  
 Behaaiers in je eigen auto, maar op elkaar toekijken en samen lachen.

**Walking date**  
 P3 Klein contact

**Handenwaken**  
 Een gesprek beginnen met andere handgebaren in het park. Of eigenlijk brengen de handen in samen, omdat ze naar elkaar toe gaan - ra een tipje op in elkaar raken (handen aan elkaar) - is vaker de hand uitlaten.

**Verschuivende begrotingen**  
 Eigen handgebaren voorover: kinderen laten kijken wat voor groot. Hulp of doel zeggen.

**Communiceren om plezier**  
 We zijn nu verduidelijk GACAF (gevoelshulp).

**Let's dance**  
 Blijdschap is een gevoel of wat lakers of gewoon de plek waar je aan het spelen bent.

**VRo horen c**  
 LR Interactie: Een vriendelijke opening of een gesprek in de W. (Schuif?)  
 → kan ook heel anders zijn maar afhankelijk toch wel leuk  
 → is lang een keer om te zien in het kind van iemand die lacht het gemaakt voor de hele familie.

**Deur Verhoeden**  
 De deur verhoeden voor iemand die wat achter je loopt. (Schuif?)

**Geelig tegen andere**  
 Handen zeggen: Houdt een beetje van je af, maar tegen komen en het zeggen, lachen of handje geven.

**Deur Openen om de Kassa**  
 Een kortstondig contact is als een gesprek met iemand in de W. (Schuif?)  
 → Of met de kassa.  
 → Kassa om een kaartje onderhouden tegen te gaan.

**Deel van Objecten**  
 Een paar of paarke bij een iemand die het nodig heeft. (Schuif?)  
 → Deel van een voorwerp kan samen kan samen.

**Kindjes langere**  
 Oefening bij samen met handje in de buurt van iemand om te helpen of te helpen met iemand.

**Stadshuizen**  
 Waar's mensen samen komen om te kijken en te kijken op de markt. Of in een openbaar park, speelt iemand graag, en je complimenten hen over hun spel. (Schuif?)

**Dans van de Vlinders**  
 Kinderen die elkaar voor het eerst ontmoeten zijn als vlinders die voor het eerst samen dansen. In het begin fladderen de vlinders om elkaar heen, observeren en wennen aan elkaar bewegingen. Daarna ze zijn comfortabel worden, begrijpen ze samen in harmonie te dansen, en hun spel wordt een mooie, vloeiende choreografie. (Schuif?)

# Appendix 8: Brainstorm part 2 with Rosa

Alvarez tegen binnen  
 waterpomp

spiegels

buis

doelhof

geurd

voeten aanraken!

passeren

voorlinden Bilbao

afhandeling haken

varaf 2 kamers

Figure Fixme:

Figure Fixme:



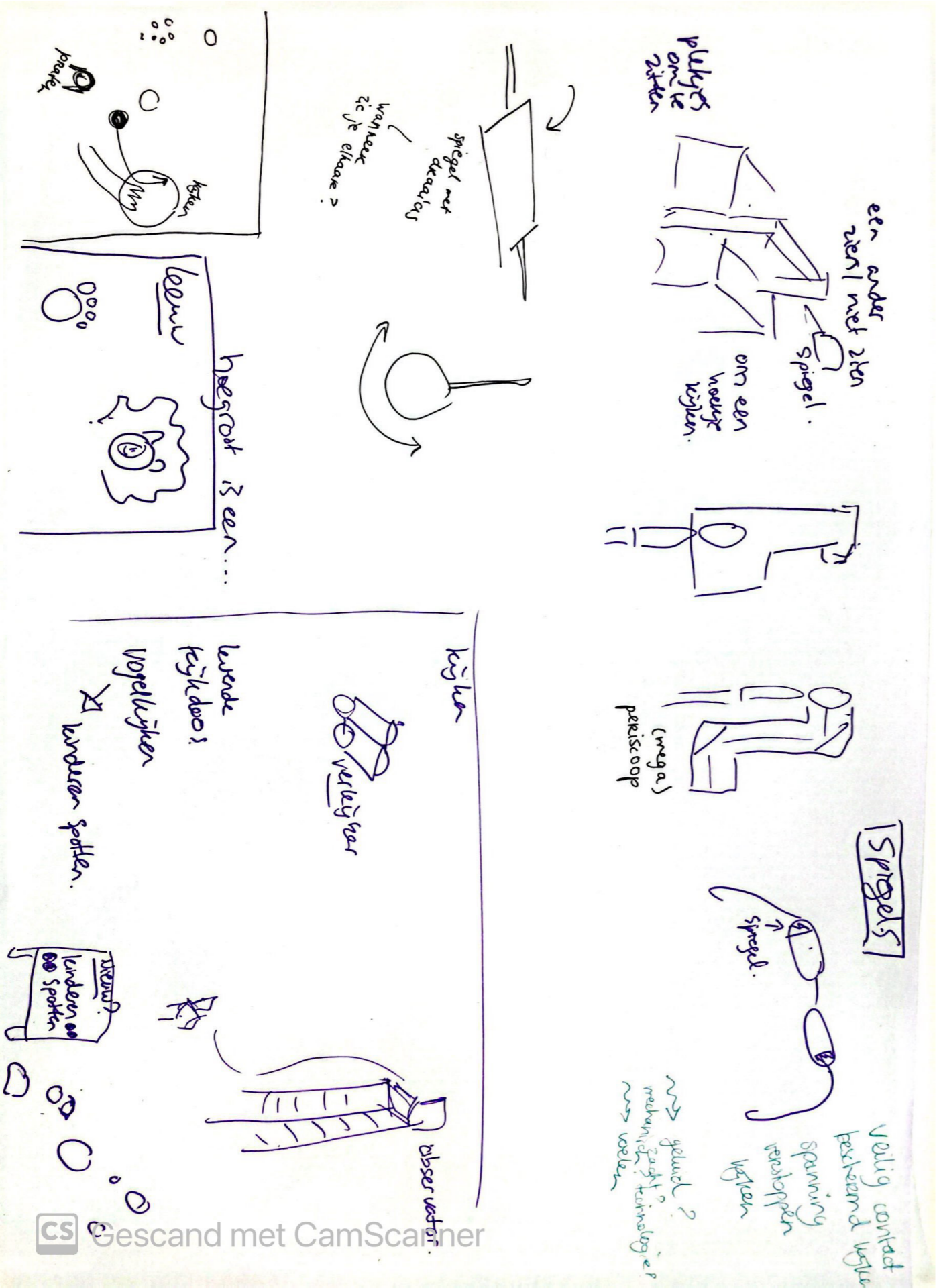


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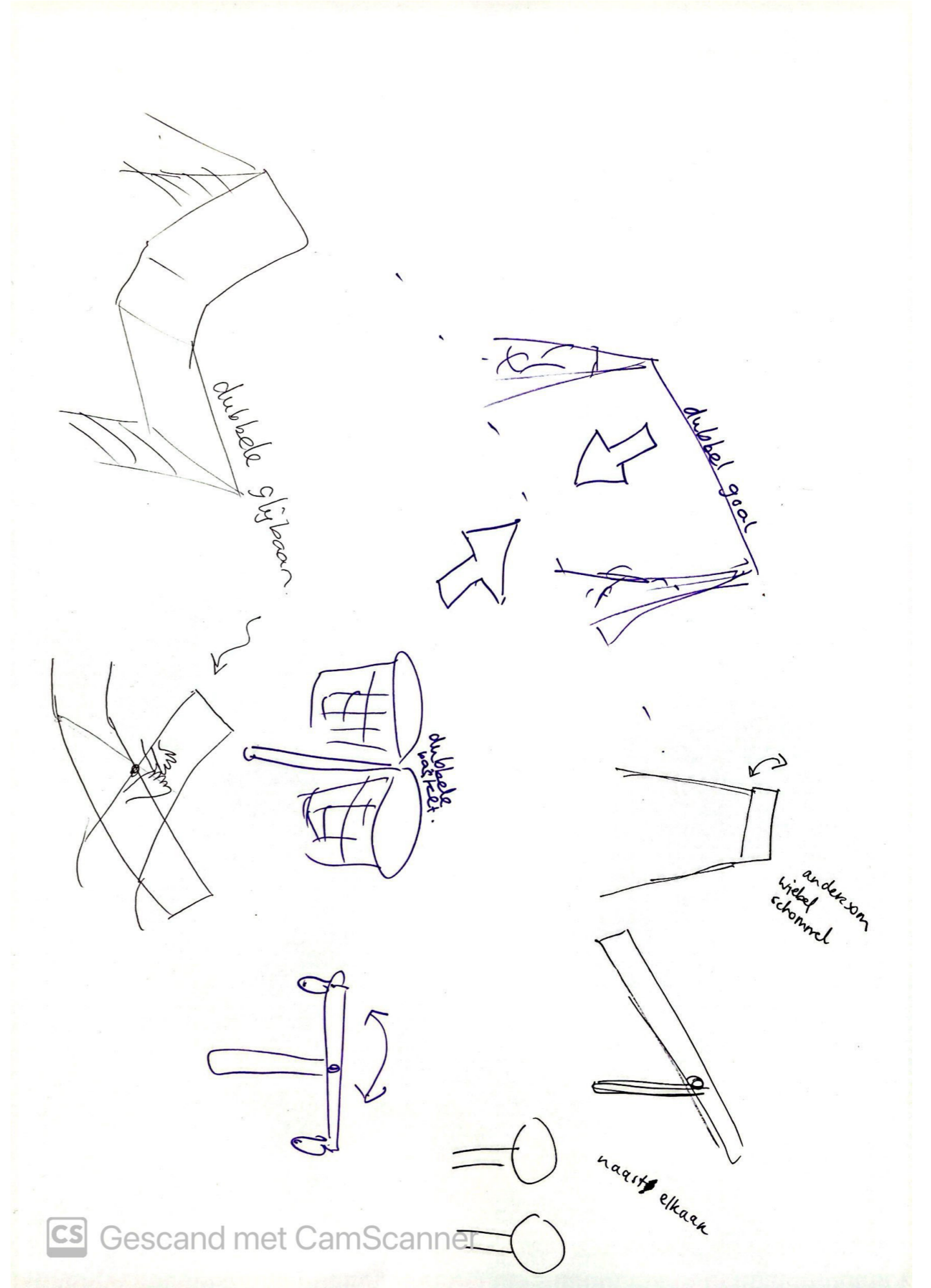


Figure Fixme:



# Appendix 9: Brainstorm part 2 with peer

**Hoe kun je?**

Cardboard bv minion waar je je achter kan verstoppen op verschillende manieren

Of luikjes van vogelspotters

Op een speelplaats van die dingen in een rondje, kan verstoppen en kennis maken

**Hoe kun je?**

Onverwachtsheld (creëren/ stimuleren)  
Zelf creëren, exploreren en ontdekken  
Op elkaar reageren of uitlokken

Wie ben ik met echte mensen - sticker op voorhoofd

Kan dit met andere zintuigen? voelen of horen?  
Mechanisch geluid of zacht geluid met technologie? Is het dan een reactie op iets of kan het ook een trigger zijn?  
Praatpalen vanaf een afstand

Interessant maken om erachter te verschuilen bv iets horen van zichzelf al duidelijk wat je ermee kan doen

Stiekem, kijken onverwachte bewegingen en acties met schaduwen wat gedrag uitlokt denk aan kattenspeeltje

Kan dit met andere zintuigen? voelen of horen? Wat kan er allemaal met schaduwen gedaan worden?

Uitlokken en onverwacht  
Wallet prank  
-> voetbal aan touwtje en wegtrekken

Robot dat je je emoties door kan geven - displaytje  
non verbaal communiceren als je het spannend vindt  
'ik geef mij over vlag' - witte vlag

Shot en de ene staat aan de ene kant de ander aan de andere kant  
Een ziet de voorkant, ander ziet de achterkant  
Dan moet je bv tot dieregeluid  
Als je iets draait, draait het mee

Graafmachines - samen graven en bouwen zonder dat je elkaar echt hoeft te zien

Escape room - gescheiden van elkaar  
Speekertje of microfoon dat je elkaar wel kan spreken. De ene ziet bv letters met kruisjes en de andere kruisjes met getallen  
Via een touwtje iets doorgeven aan elkaar

**Hoe kun je?**

Luikjes 3x3 kunnen van allebei de kanten geopend worden en dan moet je matching dingen zoeken dus bv de leeuw welk geluid maakt die: eentje heeft plaatje en de ander omschrijving van het geluid en als ze hem allebei open doen, zien ze elkaar

**Hoe kun je?**

Vertraagd (contact maken)  
Geïncouat (worden)  
Iets dat je bijna niet kunt zien of bijna niet kunt horen

Escape room heel zachtjes zijn omdat anders het licht aan gaat of dat je heel zachtjes bepaalde dieren geluiden moet horen

Verstopperje met je oren daar hoor ik iets!  
eentje doet ogen dicht en in het midden en de andere gaat rondjes eromheen lopen en die moet aangegeven worden  
Als het te moeilijk is een belletje om zijn arm, colablikje aan been, cornflakes op de grond  
Verschillende niveaus

Camera - lens scherp stellen, je moet moeite doen om iets te zien, een stappenplan

Wie is de mol: elke vlag is een letter - woord maken kustwacht

**Hoe kun je?**

Elkaar echt tegenkomen (op elkaar bots) ook in interactie (stimuleren) door een bepaalde route of actie

Doolhof kan ook met stoepkrijt gedaan worden en dat je dan aan twee kanten begint

Verstoppen of in snelle beweging zijn  
Weten wanneer je elkaar tegenkomt en daarop reageren met interactie (high five bv) of niet weten of je iemand gaat tegenkomen en wanneer

Hoe groot of klein kan dit zijn, de route of actie? Wat triggert je om het te gaan doen?

Parcour  
Elkaar tegen komen  
Langs elkaar heen moeten gaan

Strong viking

Geocaching kan je naam of berichtje achterlaten op een plek -> verstoppen achter een boom of in de zandbak  
Zin doorfluisteren  
woord - iemand tekenen - iemand woord - iemand tekenen - iemand woord -> vergelijken

Stoepkrijt iedereen krijgt een kleur

Elkaar natekenen met kledingstuk

Boekje kan je doorgeven

Samen poppetjes tekenen  
Op elkaar voortborduren  
Samen iets creëren

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# Appendix 10. 4 idea directions with online brainstorm

## Idea direction 1 'From a distance'

**1.**

**Veilig contact (maken)**  
Beschermd kijker (zijn), kunnen 'verstoppen' van een afstandje

Kan je verstoppen, denk aan stiekem vanachter een boom kijken en terug deins, veranderend perspectief door jezelf te verplaatsen, kijken door iets, kijken om iets heen, kijken onder iets, kijken op andere hoogtes

Op een speelplaats van die dingen in een rondje, kan verstoppen en kennis maken

Spelen met tactiliteit  
Het is een soort tactiele illusie, het meubel is veel zachter dan je denkt

How Do Kids Experience Streets? The Reverse Perspective Comparison Guide by - Global Designing Cities Initiative

Met knopjes en lampjes bijvoorbeeld een gloeilampje boven je hoofd of laserwaard of monster & co met lantaartje niet alleen communiceren met aankijken, maar ook door licht en misschien geluid op een niet irritante manier

Verstopperje met je oren daar hoor ik iets!

contact maken via geluid, licht, objecten, emoties

Spiegelje  
Iets vanuit ander perspectief zien  
Luchtspeelgoed  
Bespeelden...

Met elkaar praten / geluid maken op afstand

Draaien  
Creëren door te draaien en verschillende combinaties te maken

Playing with the perspective  
you see things from  
From above, upside down, shadow display.

Looking through  
Oogcontact maken  
Maak een deel van de omgeving zien  
Stiekem kijken, kunnen spreken

Luikjes 3x3 kunnen van allebei de kanten geopend worden en dan moet je matching dingen zoeken dus bv de leeuw welk geluid maakt die: eentje heeft plaatje en de ander omschrijving van het geluid en als ze hem allebei open doen, zien ze elkaar

Verstoppen of in snelle beweging zijn  
Weten wanneer je elkaar tegenkomt en daarop reageren met interactie (high five bv) of niet weten of je iemand gaat tegenkomen en wanneer

Kijk en observeer zonder dat er een kijker en iemand die bekeken wordt  
Geef/hoort  
-> altijd observer en die bekeken wordt (of juist allebei niet hoe je het bekekt)

Kan dit bij benaderde transities worden toegevoegd?

Infinity mirror  
yepit kusama

Escher

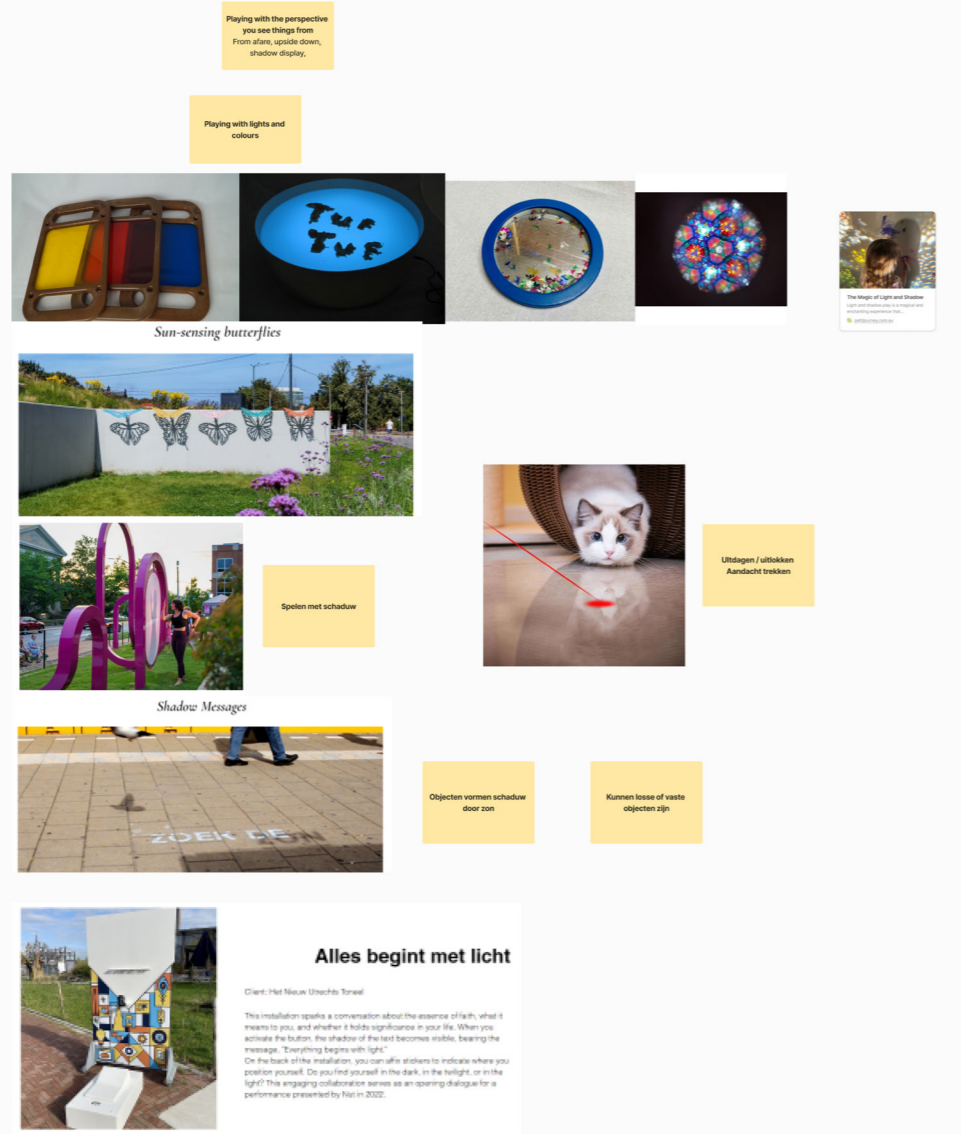
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## Idea direction 2 'Unexptedness & Exploring'

2.

Onverwachtsheden (creëren/ stimuleren)  
Zelf creëren, exploreren en ontdekken  
Op elkaar reageren of uitlokken en uitdagen

Stiekem, kijken  
onverwachte bewegingen en acties  
met schaduwen wat gedrag uitlokt  
denk aan kattenspeeltje



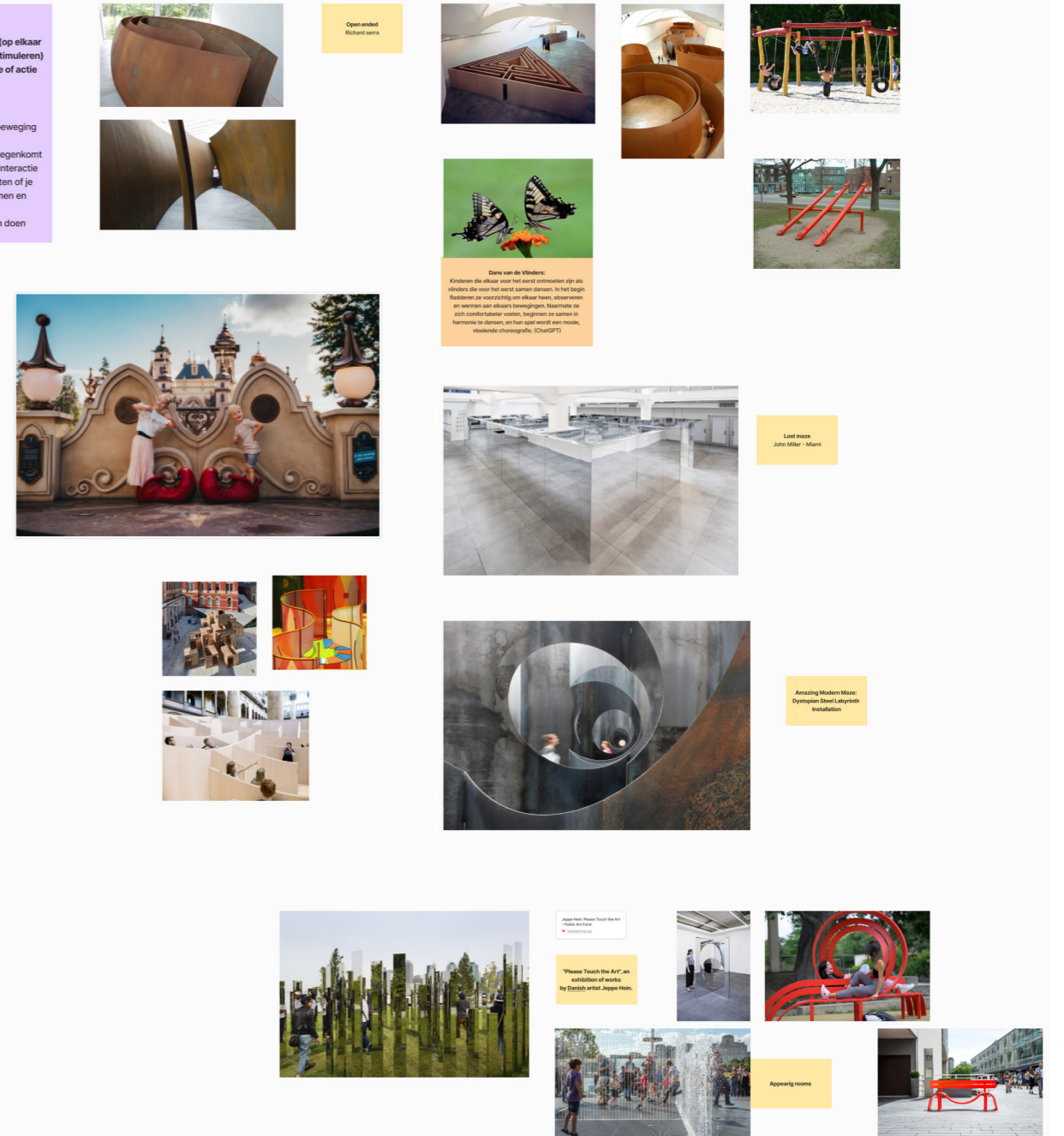
## Idea direction 3 'Bumping into each other'

3.

Ekaar echt tegenkomen (op elkaar botsen) ook in interactie (stimuleren) door een bepaalde route of actie

Verstoppen of in snelle beweging zijn  
Weten wanneer je elkaar tegenkomt en daarop reageren met interactie (high five bv) of niet weten of je iemand gaat tegenkomen en wanneer  
Trigger om dit te gaan doen

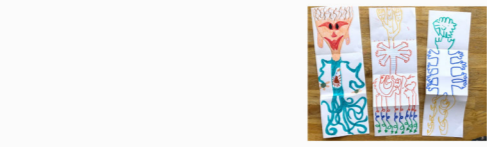
Route door afsluitingen,  
die met tijd of  
veranderingen, door route  
aanwijzingen, laten kiezen  
door ander, in iets  
betrokken zijn



# Idea direction 4 'Leaving traces for each other

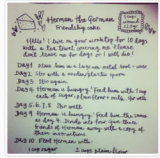
**4.**  
Iets delen, doorgeven, achter kunnen laten voor elkaar, op elkaar kunnen bouwen in de buurt

Een kleine community hiermee vormen, op elkaar kunnen reageren en kunnen aanvullen, gevoel van erbij horen, de buurt en de kinderen ontdekken en leren kennen



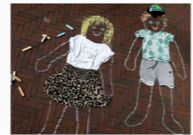
**Samen poppetjes tekenen**  
Op elkaar voortborduren  
Samen iets creëren

**Stoepkrijt**  
Activiteiten kun je tegels (of voor elkaar maken)  
Verzamelend om tegels te maken  
Blijft een tijdje liggen  
Je kan op elkaar reageren  
Je kan de omgeving van de buurt getuigen



**Kettingbrief**  
Iemand die hem ontvangt wordt verantwoordelijk hem te verspreiden onder vrienden en bekenden, wijkgenoten

**Stoepkrijt**  
Iedereen krijgt een kleur



**Steenmannetjes**  
Traces van verschillende mensen  
Laten in de weg  
Waarbij elke een soort kunstobject  
Ook een soort teamwork - samen is hoog mogelijk bouwen



**Kledingjes langbrengen**  
Dochting koop meestal in kleding-winkel in de buurt  
→ kleding van vrienden, maar omdat het uit de buurt is en iedereen meedoelt, voelt het toch vertrouwd en meer verbonden dan bij kledingwinkels verder

**Kabouterjtes speurtocht door heel IJsselstein**  
Beertjes achter de ramen met corona



**Happy stones**  
Happy Stones zijn kleurrijk versierde stenen die je kunt verspreiden in de natuur zodat anderen ze vinden. Als je een Happy Stone vindt kun je hem weer verspreiden voor iemand anders om te vinden, maar er zijn ook mensen die ze meer naar huis nemen en ze verspreiden.

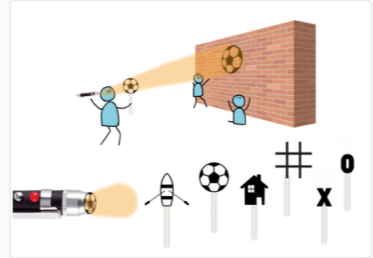
**Poppetjes dat 'de wereld rondreist'**  
In heel de wereld een klein een zelfgemaakt poppetje gevonden en daar hing een briefje aan dat je hebt het meegenomen en weer mag je anders in de openbare ruimte een reekelggen waar iemand anders hem weer kan meenemen.

**Samen of behouding op lijst staan van deelnemers**  
Bij handtekeningenlijst op een groot bord bij de wijkgenoten voor samen bouwen alle andere namen

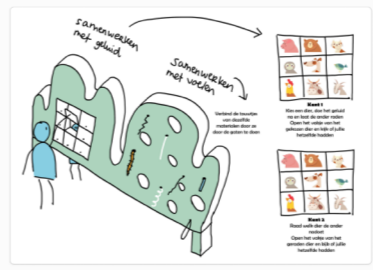
# Appendix 11: Comparison ideas with PMI method



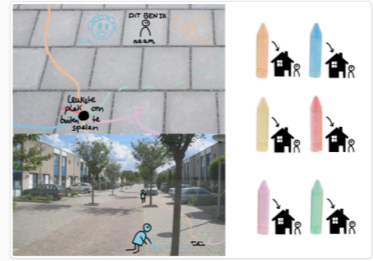
- + Verschillende mogelijkheden tot ermee spelen, wat leidt tot mogelijkheden voor verschillende kinderen om mee te doen op hun eigen manier
- + Non verbale communicatie door oogcontact
- + Niet op snelheid gefocust, maar meer speelsheid
- Kinderen die blind zijn kunnen niet de spiegels gebruiken
- Kinderen worden nog niet vanuit thuis gelokt om dit te doen
- ? Stimuleert het kinderen die elkaar niet kennen om contact te maken? ! Is er uitleg nodig? Of speeltips?
- ! Contact mogelijk vanuit verschillende plekken, van waaruit je elkaar normaal niet zou kunnen zien
- ! Sluit aan op het speelse gehalte van verstoptertje of verstoppertje voor anderen wat ik veel in observaties heb gezien en ook gewoon op straat
- ! Surprise element van alle reflecties en nieuwe onverwachte dingen zien



- + Vrij spel en regels mogelijk
- + Mogelijkheid om op de schaduwen te reageren of andere kinderen uit te lokken, zonder te hoeven vragen of ze mee willen doen
- + Kan ook fysieke beweging stimuleren
- Ingewikkeldheid met de lichtbron: zon of wat voor lampjes te gebruiken die niet slecht zijn bij het schijnen in de ogen
- Niet mogelijk voor kinderen die blind zijn, slechtziend zou wel kunnen denk ik
- ? Hoe gaan kinderen om met de ingewikkeldheid van de lichtbron
- ! Bij sommige spellen echt meerdere kinderen nodig om het te spelen en om de stokjes vast te houden, zou samen werken kunnen stimuleren
- ! Onverwachtheid en uitdagingen kunnen uitnodigen uit om te reageren



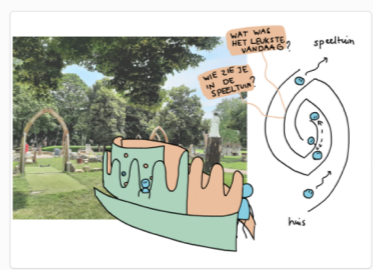
- + Verschillende zintuigen worden gebruikt in een interactie
- + Teamwork wordt gestimuleerd
- Statisch object
- Het spel blijft redelijk hetzelfde, ookal kunnen er net verschillende iteraties op de opdrachten worden gemaakt
- Bestaan al veel interactie muren voor speeltuinen
- ! Surprise element van oogcontact



- + Kinderen in de buurt worden opgetrommeld om naar buiten te komen
- + Verschillende opdrachten mogelijk
- + De buurt en kinderen kunnen ontdekt worden door inspiratie van anderen
- Opdrachten blijven niet interessant voor altijd
- ? Kunnen opdrachten vervangen kunnen worden om de zoveel tijd?
- ? Komt er direct contact tussen kinderen als ze samen bezig zijn?
- ! Leuk dat het in de buurt is en ook het ontdekken van buitenspeel plekken in de buurt stimuleert



- + Gaat rond in de buurt, en je leert kennen welke andere kinderen er wonen
- Kinderen worden niet direct gestimuleerd om naar buiten te gaan om andere kinderen te ontmoeten
- Individuele activiteit thuis
- 2D maakt de interactie plat, gaat veel om schrijven
- ! Gemeenschappelijke opdrachten in het vriendenboekje stimuleren om naar elkaars ingevulde ideeën te kijken.
- ? Vinden kinderen het interessant genoeg om de dingen van andere kinderen te lezen en iets daarvan meenemen in contact leggen in de buurt?



- + Gefocust op focussen en reflecteren op positieve ervaringen
- + Meerdere manieren om je te verstoppertje
- Groot en moeilijk te implementeren
- Statisch object
- ! Kinderen kunnen op elkaar opboksen → fysiek spontaan contact
- ? Gaan kinderen de reflectie opdrachten doen
- ? Groot genoeg voor rolstoelgebruikers maken

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# Appendix 12: Checklist for testing & hypothesis

## Extended checklist

<p><b>Plan, wat wil ik te weten komen?</b></p> <ul style="list-style-type: none"> <li>Wat voor soort contact ontstaat er? <ul style="list-style-type: none"> <li>Van afstand of dichtbij</li> <li>Non verbaal of verbaal</li> <li>Kort of langer</li> <li>Spontaan of gestuurd</li> <li>Verbaal of non-verbaal</li> <li>1 op 1, 1 op 2, 2 op 2, groepen</li> </ul> </li> <li>Tussen wie wordt contact gestimuleerd / ontstaat het contact? <ul style="list-style-type: none"> <li>Bekende of onbekende</li> <li>Kinderen met of zonder beperking</li> <li>Zichtbaar of onzichtbare beperking</li> <li>Verlegen of druk?</li> </ul> </li> </ul> <p><b>Wat voor non verbaal of verbaal contact?</b></p> <ul style="list-style-type: none"> <li>Paar woorden</li> <li>Hele gesprekken</li> <li>Geluiden</li> <li>Lachen</li> <li>Verdrietig</li> <li>Boos</li> <li>Oogcontact</li> <li>Aanraken</li> <li>Spontaan</li> <li>Gericht</li> </ul> <p><b>Wat kan ik vragen?</b></p> <p>Wat voor soort kind is het?</p> <ul style="list-style-type: none"> <li>Wat doe je normaal met het buiten spelen?</li> <li>Waar speel je normaal vaak buiten?</li> </ul> <p>Over het spelen met de objecten</p> <ul style="list-style-type: none"> <li><b>Laat eens zien wat je hiermee zou doen / hebt gedaan?</b></li> <li>Wat kan je er allemaal mee?</li> <li>En dan...?</li> <li>Als ze zeggen dat je er niks mee kan: <b>wanneer kan je er wel wat mee?</b></li> <li>Als ze zeggen dat je er niks mee kan: wie kan er wel wat mee?</li> <li>Wat nou als ... het donker is, er kinderen zijn die je niet kent ...?</li> </ul> <p>Contextmapping</p> <ul style="list-style-type: none"> <li>Wat ben je ermee aan het doen?</li> <li><b>Heb je zoiets al wel eens gedaan?</b> (verleden, contextmapping)</li> <li>Zou je er een <b>spel</b> mee kunnen spelen dat je kent? (toekomst)</li> <li>Heb jij een <b>ander idee</b> om samen te spelen? Je kan ze hier uittekenen (toekomst)</li> </ul>	<p><b>Hoe komen kinderen in contact met elkaar / met het voorwerp?</b></p> <ul style="list-style-type: none"> <li>Door te vragen aan mij of ze mee mogen doen</li> <li>Door te vragen aan mij of ze een object mogen</li> <li>Door te vragen aan een kind of ze mee mogen doen</li> <li>Door te vragen aan een kind of ze een object mogen</li> <li>Uitnodiging van iemand om mee te doen door te vragen</li> <li>Uitnodiging van iemand om mee te doen door object te geven</li> <li>Door vanaf een afstand een voorwerp te pakken en mee te doen</li> <li>Door vanaf dichtbij een voorwerp te pakken en mee te doen</li> <li>Door alleen maar te kijken</li> <li>Door te kijken en er fysiek op te reageren</li> <li>Door te kijken en er met mimiek of meer emotioneel op te reageren</li> <li>Door te kijken en er verbaal op te reageren</li> <li>Naast elkaar alleen spelen</li> <li>Van ver / Op afstand samen spelen</li> </ul> <p><b>Hoeveel mensen in het contact en op welke manier?</b></p> <ul style="list-style-type: none"> <li>Contact 1 op 1</li> <li>Contact 2 op 2 (meerdere op meerdere)</li> <li>Contact 2 op 1 (meerdere op 1)</li> <li>Grotere groepen</li> </ul> <p><b>Wat voor contact?</b></p> <ul style="list-style-type: none"> <li>Heel kort contact moment zonder verdere communicatie</li> <li>Meerdere korte contactmomenten zonder verdere communicatie tussendoor</li> <li>Een langer contactmoment met geringe communicatie</li> <li>Een langer contactmoment met non verbale communicatie heen en weer</li> <li>Een langer contact moment met verbale communicatie</li> <li>Meer dan contact met tijdens het spelen, maar ook contact buiten het 'spelen' om, buiten het gebruik van de prototypes</li> </ul> <p><b>Analyse plan</b></p> <p>Soort contact</p> <ul style="list-style-type: none"> <li>Vinkjes wat voor soort contact er was</li> <li>Soort contact in een diagram en daar kleine plaatjes van de ideeën in doen</li> <li>Voorbeelden uitschetsen in tekst en uittekenen</li> <li>Vergelijken met elkaar op een schaal of met blobs waar ze overlappen</li> <li>Klein plaatje van idee met icons van wat voor soort contact en wat voor afstand, in welke omgeving</li> <li>Vergelijken met mijn assumpties</li> <li>Bespreken met andere en experts vanuit samen spelen</li> </ul>	<p><b>Met wie maken ze contact?</b></p> <ul style="list-style-type: none"> <li>Hun eigen ouders</li> <li>Andere ouders / volwassenen</li> <li>Kinderen die op hun 'lijken' qua leeftijd of beperking</li> <li>Kinderen die heel anders dan ze zijn</li> <li>Kinderen die ze kennen</li> <li>Kinderen die ze nog niet kennen</li> </ul> <p><b>Wat voor kinderen maken contact?</b></p> <ul style="list-style-type: none"> <li>Verlegen kinderen</li> <li>Drukke kinderen</li> <li>Kinderen met een motorische beperking zeer zichtbaar</li> <li>Kinderen met een motorische beperking minder zichtbaar</li> <li>Kinderen met gedragsproblemen</li> <li>Kinderen die niet met spraak kunnen communiceren</li> <li>Kinderen zonder beperking (voor zover ik weet)</li> <li>Kinderen met onzichtbare beperking / niet altijd last van</li> <li>Jonge kinderen (0-5 ongeveer, speels)</li> <li>Middel kinderen (6-10)</li> <li>Oudere kinderen (11-ouder)</li> </ul> <p><b>Gebruik prototypes</b></p> <ul style="list-style-type: none"> <li>Vrije manier</li> <li>Als spel</li> <li>Op een hele nieuwe manier</li> </ul> <p><b>Begeleiding bij het spelen aanwezig</b></p> <ul style="list-style-type: none"> <li>Geen begeleiding</li> <li>Met beetje/losse begeleiding</li> <li>Met sturende begeleiding</li> </ul> <p><b>Anders contact en manier van gebruik bij</b></p> <ul style="list-style-type: none"> <li>Grote en kleine objecten?</li> <li>Vaste en losse objecten?</li> <li>Route of teken objecten?</li> <li>In actie nemend of ontvangende interactie?</li> </ul> <p><b>Waar wordt het gebuikt?</b></p> <ul style="list-style-type: none"> <li>In de speeltuin in een rustig deel / op het pad</li> <li>Bij/op speeltoestellen</li> <li>Buiten de speeltuin</li> <li>In eigen handen</li> <li>In handen van een ander</li> <li>Ergens neerzetten of insteken</li> </ul>
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## Used checklist on phone

Schrijf ook dingen op die je niet had verwacht!  
Ook over bijvoorbeeld de interactie met de vorm van het voorwerp, ipv bv de spiegels zelf  
Eventueel quotes die pakkend zijn!

1. Prototype	Spiegeltjes / schaduw / stoepkrijt groot / klein
2. Wat ik observeer & waar	Beschrijving wat ermee gedaan wordt en waar
3. Tussen wie is het contact (of een kind alleen doet iets)	Alleen / ouder / kind / bekend of onbekend / met of zonder beperking (zichtbaar?)
4. Wat voor soort contact	Kort of lang / van dichtbij of veraf / naast elkaar, tegenover elkaar, achter elkaar / allebei met voorwerp of een met voorwerp / 1 op 1, groep, ...
5. Communicatie / uitdrukking	Verbaal of non verbaal / oogcontact, kijken / lichaamstaal, gezichtsuitdrukking / fysieke beweging / fysiek aanraking
6. Initiatie	Vragen, uitnodigen / gewoon meedoen (langzaam aan / gelijk) / begeleid door volwassenen / vanuit wie?
7. Gebruik	Vrije manier van spelen / als spel / zoals bedacht / nieuwe manier van gebruik

### Observatie 1

1. prototype:
2. Wat ik observeer & waar:
3. Tussen wie is het contact (of alleen):
4. Wat voor soort contact:
5. Communicatie uitdrukking:
6. Initiatie:
7. Gebruik:

### Observatie 2

1. prototype:
2. Wat ik observeer & waar
3. Tussen wie is het contact (of alleen):
4. Wat voor soort contact:
5. Communicatie uitdrukking:
6. Initiatie:
7. Gebruik:

Figure Fixme:

Assumpties / Hypothese: Kijk Kameraden

<p><b>Contact en samen spelen</b></p> <ul style="list-style-type: none"> <li>• 1 op 1 contact, omdat dat vaak met oogcontact gebeurt.</li> <li>• Oogcontact wordt eerder gemaakt tussen kinderen / ouders / verzorgers die elkaar kennen of elkaar hebben uitgenodigd om mee te doen, vooral als ze verlegen zijn</li> <li>• Wordt er spontaan oogcontact gemaakt of vragen kinderen aan elkaar om mee te doen?</li> </ul>	<p><b>Waar &amp; Hoe</b></p> <ul style="list-style-type: none"> <li>• Ik denk dat kinderen er wel mee gaan rondlopen. Niet per se op toestellen, maar wel in paden door de speeltuin, rond toestellen</li> <li>• Voor sommige kinderen is het misschien moeilijker om vast te houden. Werkt het gebruik ook goed met neerzetten? (1)</li> </ul>	<p><b>Afstand / grootte object</b></p> <ul style="list-style-type: none"> <li>• Kleine spiegels zorgen voor contact van dichterbij. Grotere spiegels zorgen voor contact van verder weg.</li> <li>• Kleine spiegels zorgen voor contact van dichterbij. Grotere spiegels zorgen voor contact van verder weg.</li> </ul>	<p><b>Gebruik kinderen met beperking</b></p> <ul style="list-style-type: none"> <li>• Wordt het met kinderen die minder goed kunnen zien minder leuk of juist leuker omdat ze kunnen focussen?</li> <li>• Voor sommige kinderen is het misschien moeilijker om vast te houden. Werkt het gebruik ook goed met neerzetten? (2)</li> </ul>	<p><b>Voor wie?</b></p> <ul style="list-style-type: none"> <li>• kinderen die veel spelletjes zoals verstoppertje spelen, doen dat misschien ook hiermee</li> <li>• Vooral voor kinderen die al wel buiten spelen, maar het contact met anderen nog niet altijd hebben. Kan voor kinderen die qua contact maken met anderen, anders zijn dan typical developing children. (bv niet kunnen praten). Oogcontact moet niet te spannend zijn voor de kinderen)</li> </ul>
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Assumpties / Hypothese: Spelen met schaduw

<p><b>Contact en samen spelen</b></p> <ul style="list-style-type: none"> <li>• Kinderen kunnen voorzichtig naast elkaar spelen, zonder veel (verbaal, oog) contact in het begin. Hoe evolueert dat na een tijdje? Heeft minder te vragen om mee te doen denk ik.</li> <li>• Contact kan 1 op 1, maar ook meer in groepjes. Vallen er kinderen zo buiten de mand, die minder goed mee kunnen doen? Hoe komen kinderen erbij om te spelen?</li> <li>• Spelen kinderen er ook in hun eentje mee en hoe gaat dat? Hoe kan je dan het contact opzoeken? Of is het al genoeg als iemand ziet dat er iemand mee speelt?</li> </ul>	<p><b>Waar &amp; Hoe</b></p> <ul style="list-style-type: none"> <li>• Ik denk dat dit meer op een plek wordt gespeeld en niet midden in de speeltuin. Ben benieuwd of kinderen er echt ver mee gaan lopen en met hun omgeving ook gaan interacteren</li> </ul>	<p><b>Afstand / grootte object</b></p> <ul style="list-style-type: none"> <li>• Grote objecten zouden samenwerkingen in samen omhoog houden kunnen zorgen, maar ook juist contact van grotere afstand ten opzichte van kleine objecten kunnen kunnen stimuleren. Met kleine objecten is het misschien spannender om met anderen te spelen, omdat het van dichtbij is.</li> </ul>	<p><b>Gebruik kinderen met beperking</b></p> <ul style="list-style-type: none"> <li>• Is het makkelijk genoeg om vast te houden en een zichtbare schaduw mee te maken? (bv als je in een rolstoel zit)</li> </ul>	<p><b>Voor wie?</b></p> <ul style="list-style-type: none"> <li>• Vooral voor kinderen die al wel buiten spelen, maar het contact met anderen nog niet altijd hebben en dit ook op een voorzichtig manier willen aanpakken, zonder teveel contact</li> </ul>
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Assumpties / Hypothese: Stoepkrijt ontdekking

<p><b>Contact en samen spelen</b></p> <ul style="list-style-type: none"> <li>• Minder contact tussen kinderen die de opdrachten doen door fysiek dichtbij elkaar te zijn, maar kan wel leiden tot weten wie er wonen, de buurt en speeltuinen ontdekken. Vooral voor kinderen die nog niet veel buiten komen. Kan ook tot nieuwe contacten op de nieuwe plekken die ze ontdekken komen.</li> <li>• Opdrachten brengen kinderen op andere plekken en stimuleert daarom gelijk wel weer fysieke activiteit en het naar buiten gaan en zelf al door de buurt gaan</li> <li>• Stoepkrijt opdrachten die je spontaan tegen komt, vinden kinderen vaak leuk om al te doen, trekt de aandacht → is een lijn genoeg voor aandacht?</li> </ul>	<p><b>Waar</b></p> <ul style="list-style-type: none"> <li>• In de buurt zal het het spannendst zijn denk ik, dan kan je echt rondlopen zoals een speurtocht.</li> <li>• Zou dit ook binnen een speeltuin kunnen? en interessant zijn</li> <li>• In de speeltuin kan het misschien welk leiden tot fysiek op elkaar opboksen en zo in contact komen</li> </ul>	<p><b>Afstand / grootte object</b></p> <ul style="list-style-type: none"> <li>• De opdrachten moeten zichtbaar zijn op straat: zal een steen genoeg zijn?</li> <li>• Door de buurt waar kinderen wonen, in de omgeving die groot genoeg is om te ontdekken, maar dichtbij huis. Bij speelplekken in de buurt.</li> </ul>	<p><b>Gebruik kinderen met beperking</b></p> <ul style="list-style-type: none"> <li>• Niet geschikt voor kinderen die niet kunnen lezen, of kunnen ouders/broers zussen of andere kinderen hierbij helpen? Kan het voor kinderen in een rolstoel anders worden gedaan, bv aan de rolstoel maken of op een stok?</li> </ul>	<p><b>Voor wie?</b></p> <ul style="list-style-type: none"> <li>• Alle kinderen die in dezelfde buurt wonen. Kinderen die het leuk vinden om speurtochten uit te zetten en zelf te speuren. Ook voor kinderen die het spannend vinden om direct in contact met andere kinderen te komen. Moeten er wel voor open staan om 'op pad' te gaan.</li> </ul>
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Figure Fixme:

Kijk Kameraden

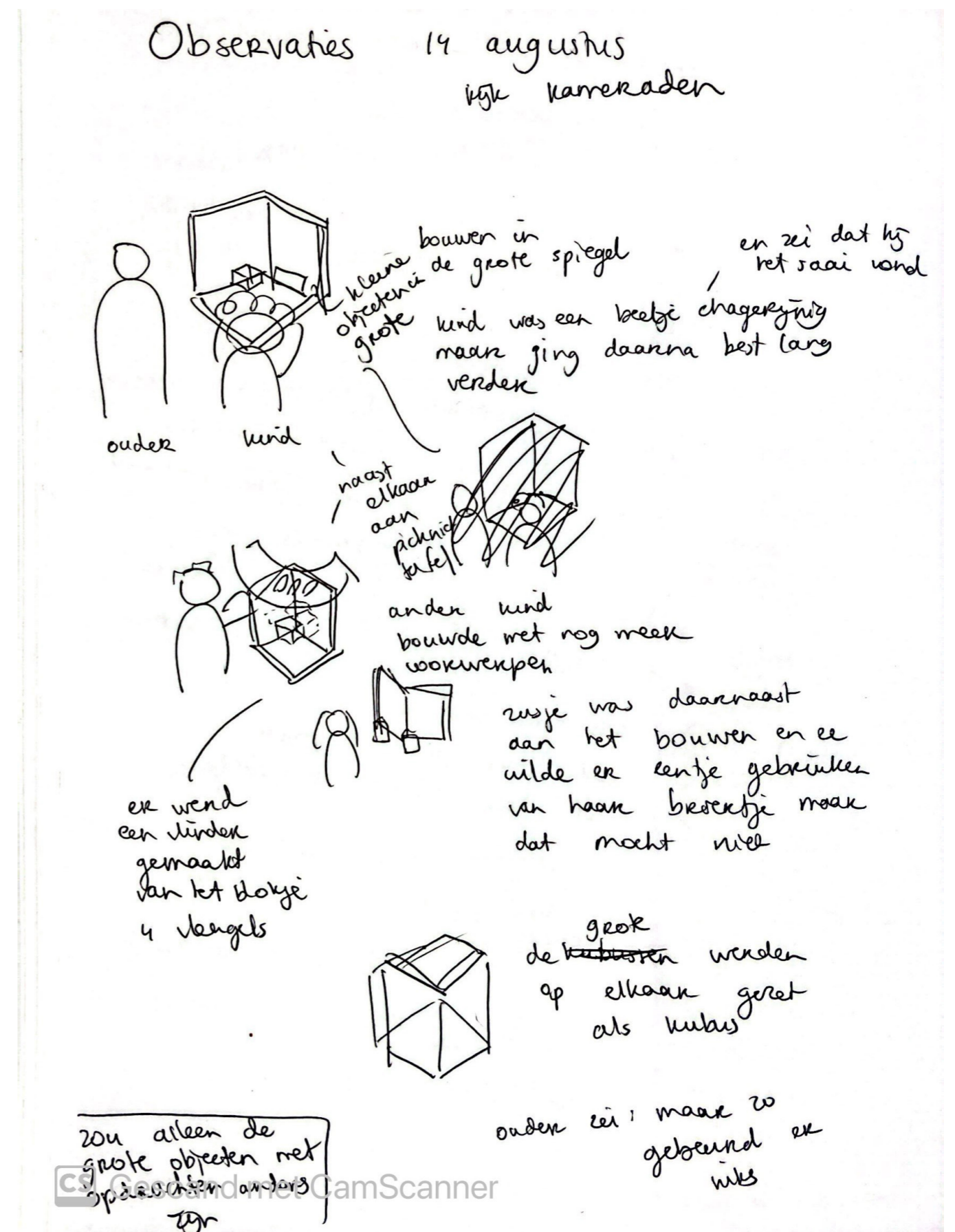


Figure Fixme: Cluster analysis 'Kijk Kameraden'

ouder kind ik

een keer zag iemand zichzelf  
~~ze~~ heel vaak en zei ze "nummer"  
 kon ons albednie zien, toen moest hij wel even lachen  
 moeder zei vriend je het toch wel leuk  
 "naam"  
 haak zw  
 verchdezi  
 zei toen  
~~de~~ ketsen de

~ wij moesten het wel benoemen

wat oudere meisje

1

ging mij zoeken in de spiegel  
 zeker ik achten haar stond  
 moest ik even introduceren  
 moest vaker introduceren dat je oog contact erin kon maken

schmink checken in de spiegel

Zetten het op hun hoofd om de schmink te beschermen

spiegel kant

ik kreeg mijn weerspiegeling te zien mijn hoofd haare lichaam

ouder kind met jongere kind op schoot

Gescand met CamScanner

Figure Fixme: Cluster analysis 'Kijk Kameraden'

Observaties is aug wntz kijk kamerad

jong meisje lachend in de spiegel grote kleintjes bouwen

moeder met kinderen op schoot lachend in spiegels

draaien langs hoofd oogcontact

tegen u hoofd ik zag mezelf erin

moeder laat zien aan kind "zo zie de je meht zien"

Ik zie jou 2x Hoe vaak zie jijzelf? Kun je ons zien? en mezelf zie ik 4x nu zie ik jou ook 4x!

ik zat buiten, waar kindjes aan kinnen waken en een spiegel waken en jongste zie "en zie" "dat is gek" en ging heen verdere kinnen

beetje aanmedig nodig met speelt ~~dat~~ vaak alle

Gescand met CamScanner

Figure Fixme: Cluster analysis 'Kijk Kameraden'

# Spelen met Schaduw

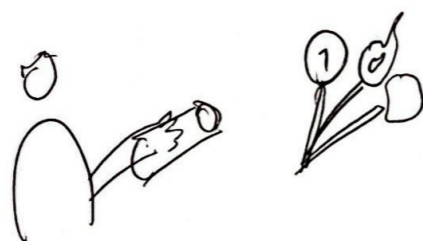
## Spelen met Schaduw



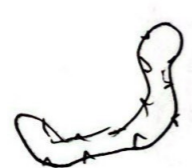
aan het schilderen en ik vroeg of ze zo met schaduw wilde spelen

na een tijdje kwam de jongen mee en begon in zijn een

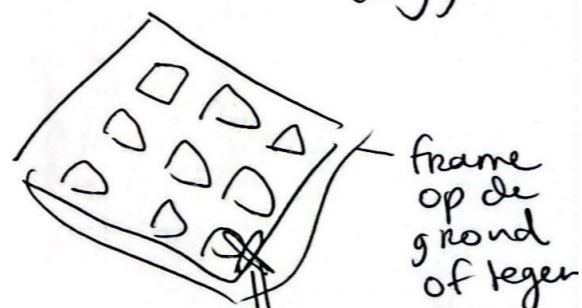
supersnel waren er org 5 kinderen bezig in hoefde niet veel uit te leggen



eerst wat uitproberen daarna verzorg hij zijn eigen verhaal na meerdere schaduw objecten verzameld te hebben



met een beweegbare slang werd een schaduw gemaakt (wel en niet zo lang)



frame op de grond of tegen de muur  
schaduw in maken of voorwerpen op de grond leggen



pellen sommigjes maken

zou het anders zijn als er maar een zaklamp



3 zaklampen

spelen raast elkaar -> als het teveel werd op de muur eknaast

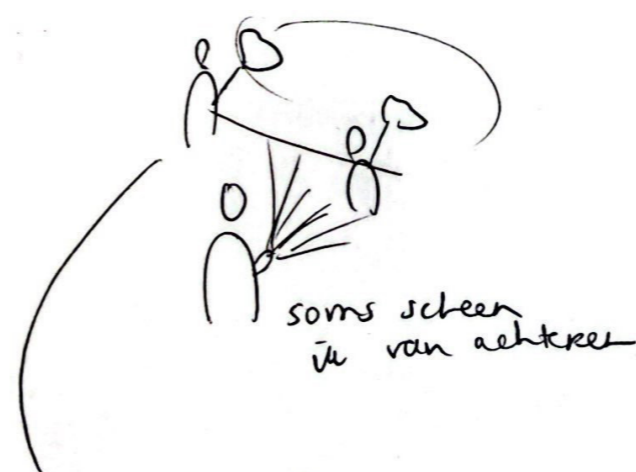


klein meisje ging uringer ze de schaduw van het handje maakte

vragen: is er ook een kleure van "stijf"?



met de vaket die opsteeg naar het plafond



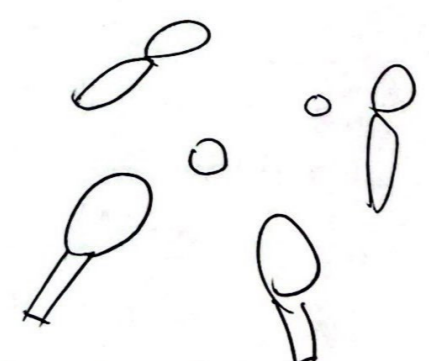
soms scheen in van achteren

2 zusjes/vriendinnen maakten hun eigen theaten met grote & kleine objecten

ze kwam er een meisje kijken maar niet mee doen van het eind alle objecten met de had



schaduw van zichzelf

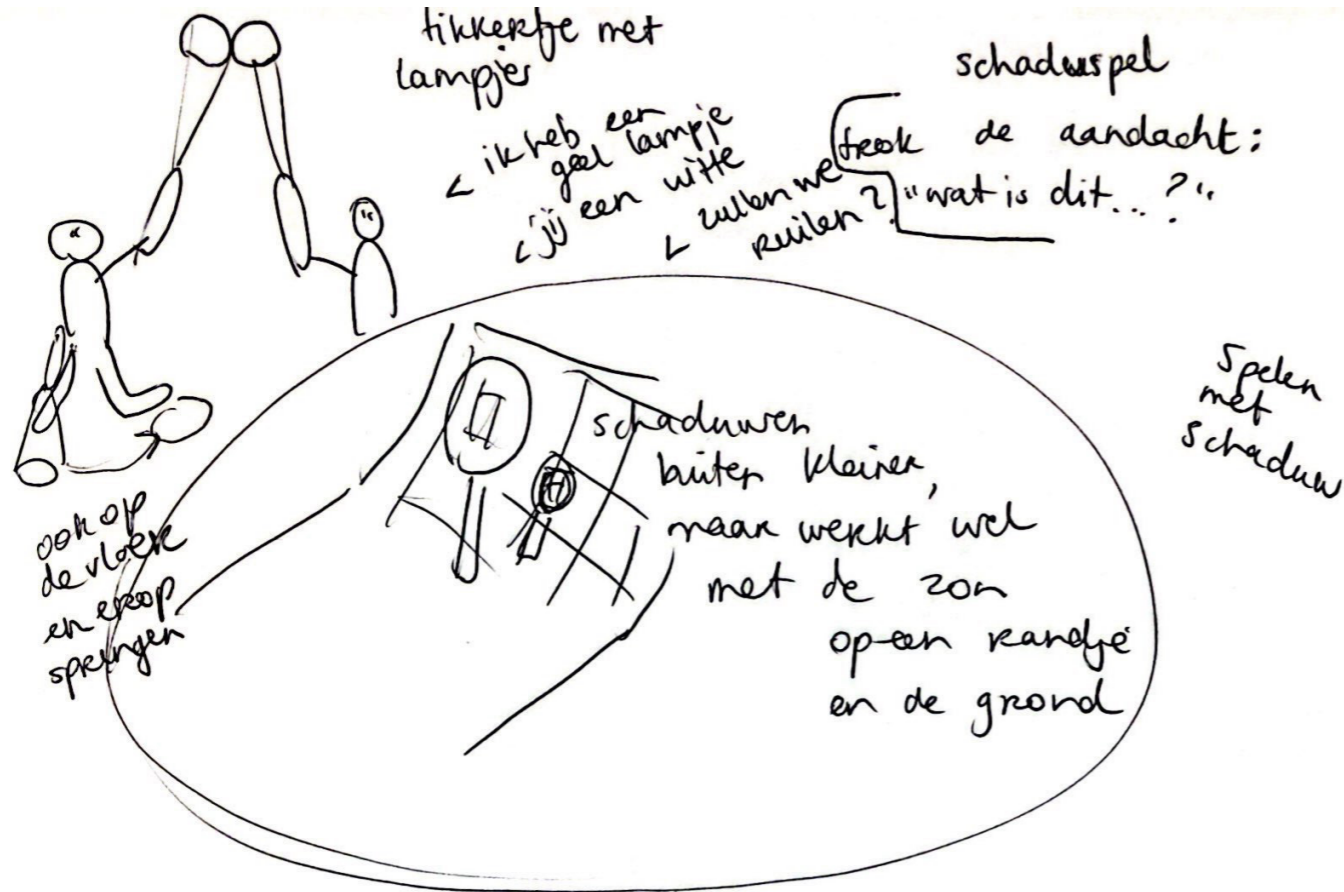


tennis racketts werden samen gebruikt

soms wel minden gericht op de schaduw

ere kind speelt er heel vey mee als er geen echt spel andere vel

# Stoepkrijt Ontdekking



# Stoepkrijt ontdekking



kindjes speelden vooral met de zaklamp  
 als ik kwam gingen ze weer weg met een voorwerp schaduw maken  
 voetbal was gewild bij voetballen



gesproken met [ ] en dat dit toch wel meer is voor in de buurt om die te ontdekken,  
 ze zijn nu al in de speeltuin  
 Het gaat dan meer om het volgen van de sporen

Figure Fixme: Cluster analysis 'Kijk Kameraden'

Figure Fixme: Cluster analysis 'Kijk Kameraden'



# Appendix 14: Clustering insights testing



Figure Fixme: Cluster analysis 'Kijk Kameraden'

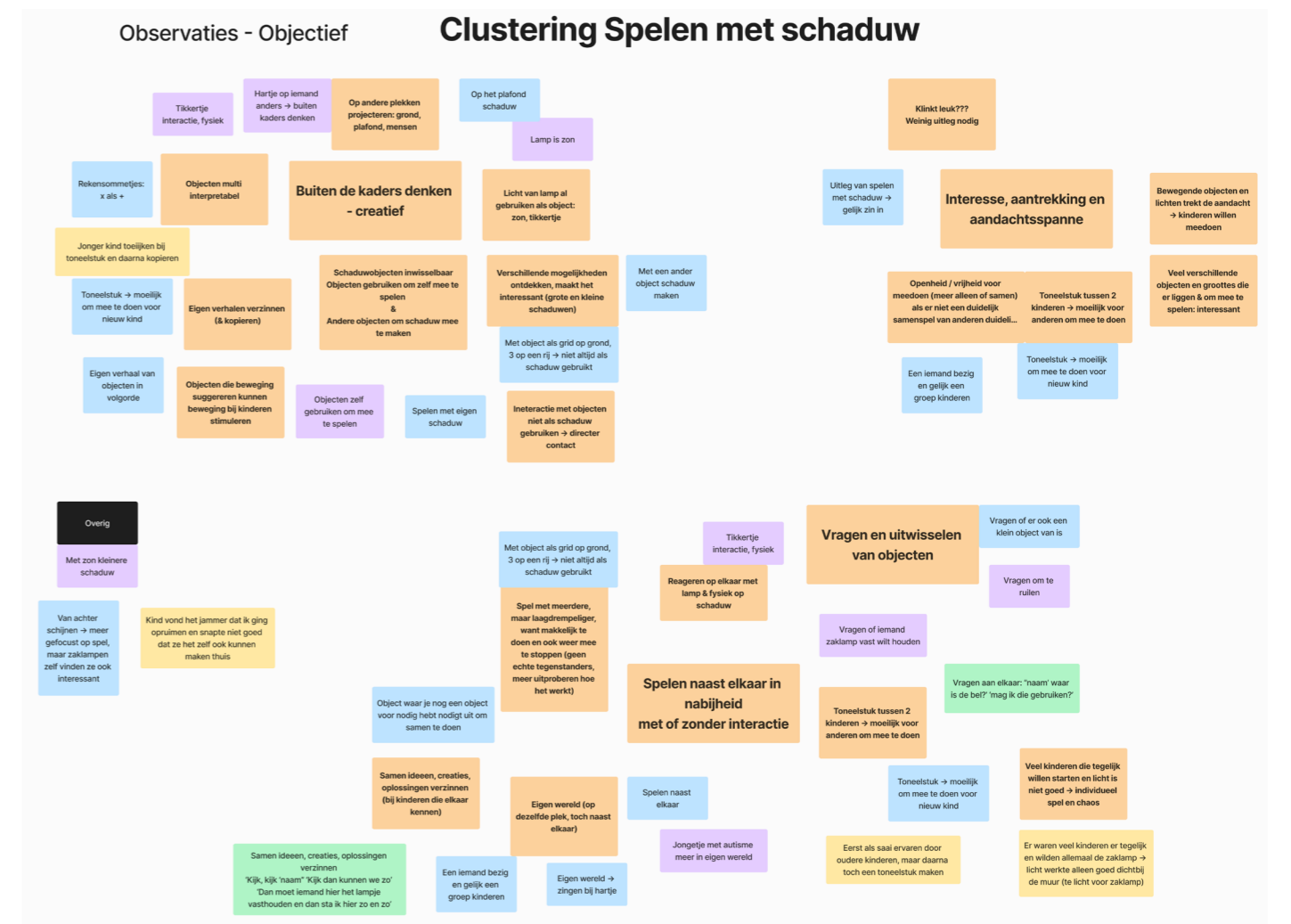


Figure Fixme: Cluster analysis 'Spelen met Schaduw'



Figure Fixme: Cluster analysis 'Stoepkrijt Ontdekking'

# Appendix 15: Social play analysis 3 concepts



Figure Fixme: Analysis on social play 'Kijk Kameraden'

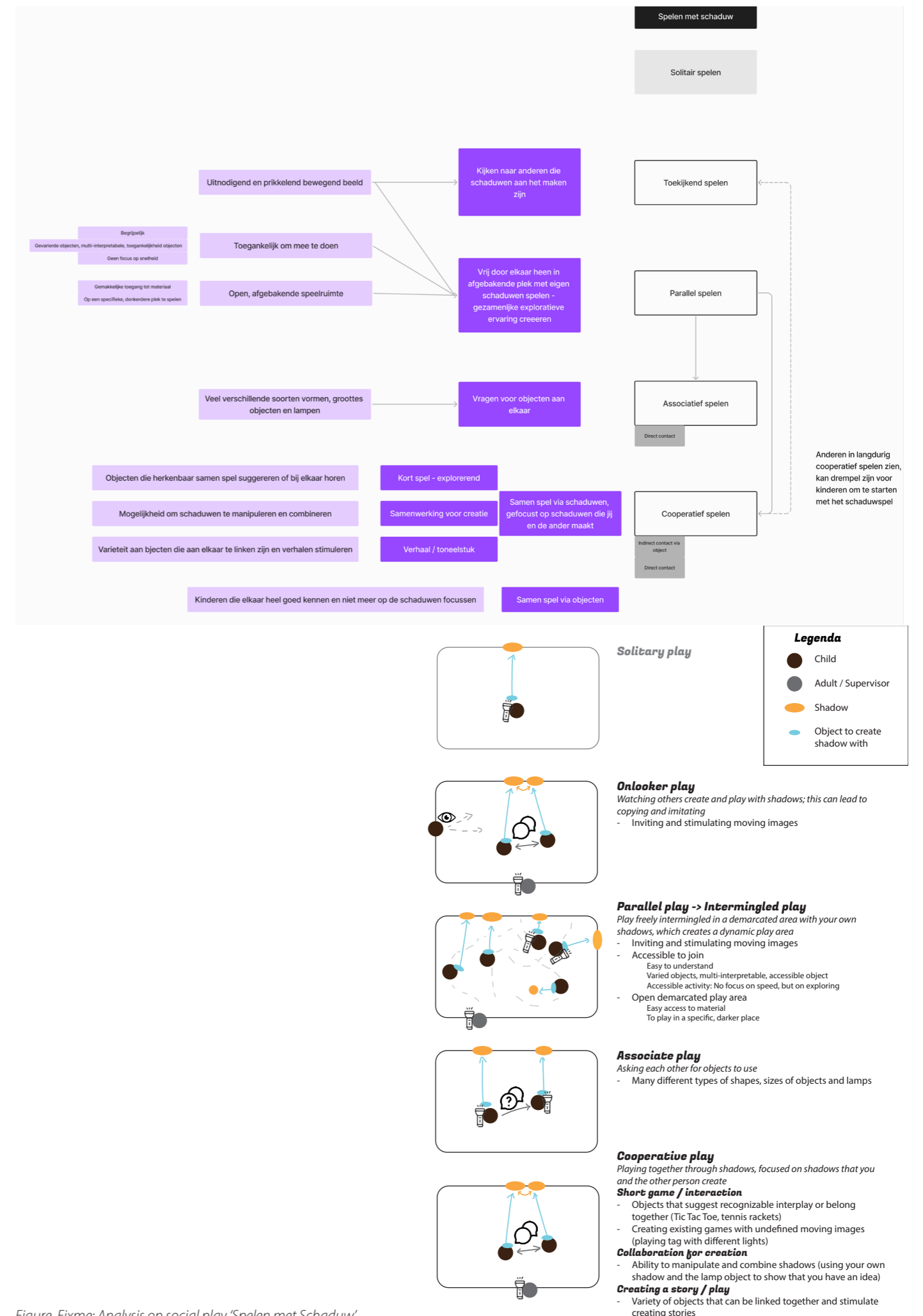


Figure Fixme: Analysis on social play 'Spelen met Schaduw'

## Appendix 16: Evaluation questions & overview concepts for orthopedagogue

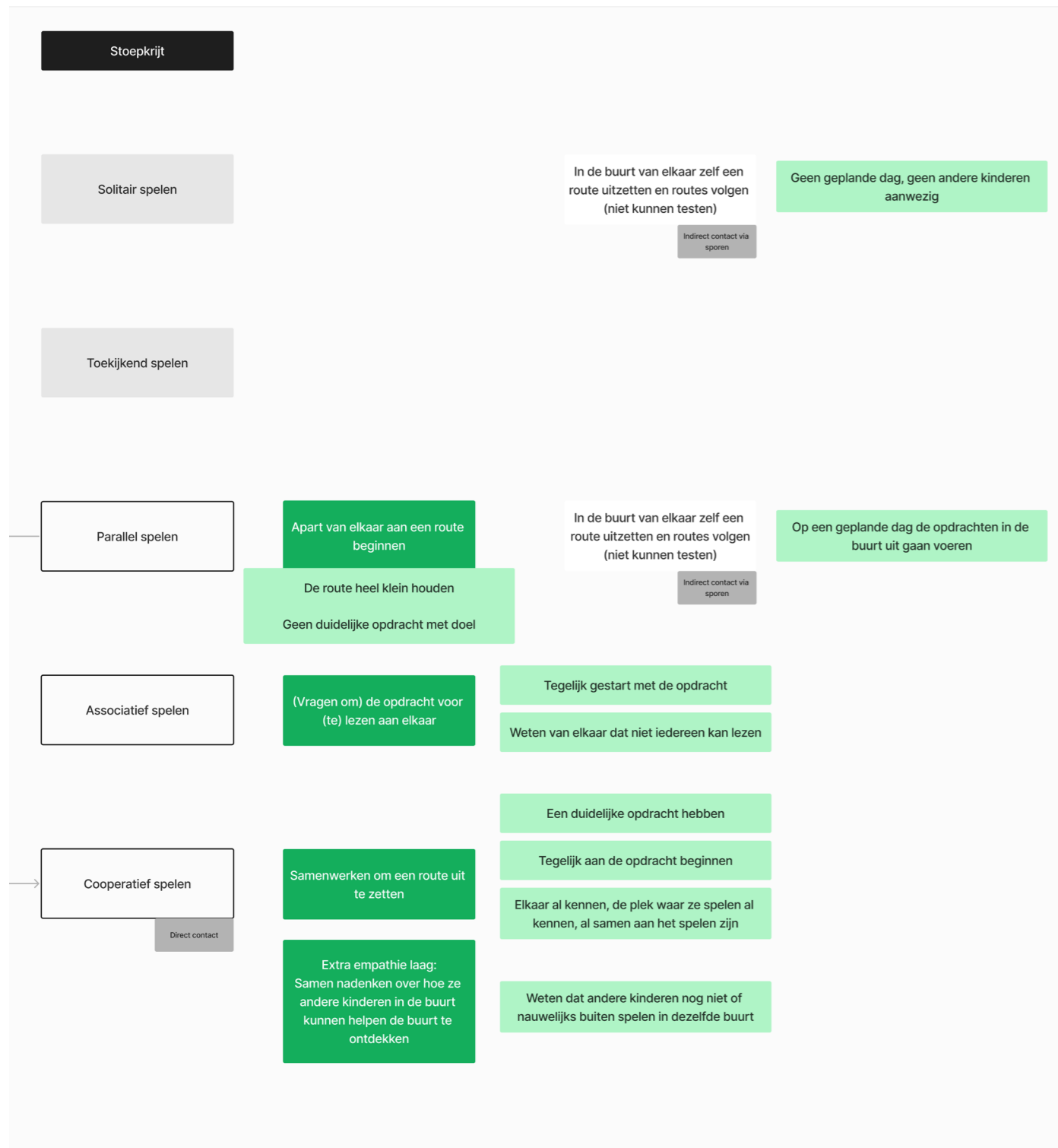


Figure Fixme: Analysis on social play 'Stoepkrijt Ontdekking'

Hierbij 3 overzichtsposters van mijn ideeën met vragen erover:

Per idee:

1. Waar zie jij kansen? Welke elementen bij de vind je goed?

Kijk Kameraden:

Spelen met Schaduw:

Stoepkrijt Ontdekking:

2. Waar zie jij belemmeringen? Wat mis je?

Kijk Kameraden:

Spelen met Schaduw:

Stoepkrijt Ontdekking:

3. Zijn er dingen onduidelijk?

Kijk Kameraden:

Spelen met Schaduw:

Stoepkrijt Ontdekking:

4. Voor wat voor kinderen zou dit geschikt zijn? En voor wat voor kinderen (nog) niet?

Kijk Kameraden:

Spelen met Schaduw:

Stoepkrijt Ontdekking:

5. Komen er andere ideeën naar boven bij dit idee?

Bijvoorbeeld met betrekking tot de aandacht trekken bij kinderen in de buurt of in de speeltuin om mee te doen of positiviteit van de ervaringen benadrukken

Kijk Kameraden:

Spelen met Schaduw:

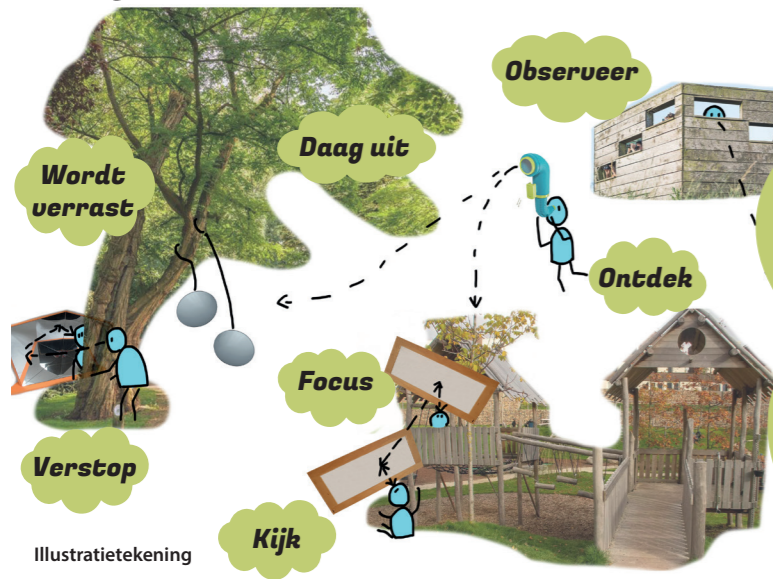
Stoepkrijt Ontdekking:

In het algemeen?

6. Welk idee is jouw favoriet en waarom?
7. Welk idee is jouw minst favoriet en waarom?

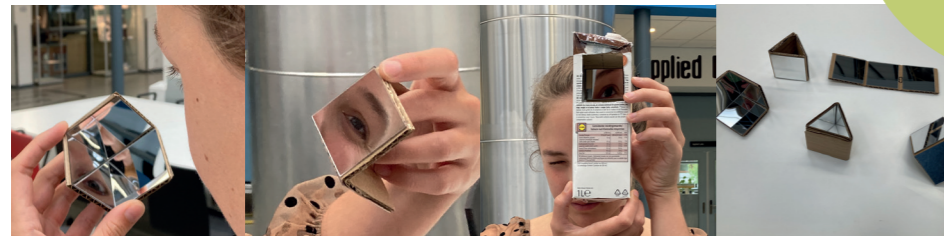
Figure Fixme:

# Kijk Kameraden



Illustratietekening

Prototypes



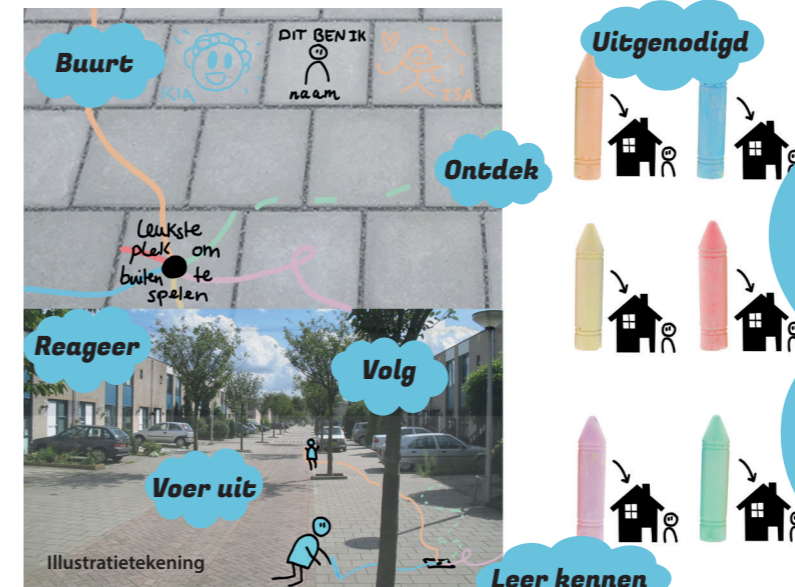
Met Kijk Kameraden kunnen kinderen (oog)contact maken door middel van het spelen van reflecties met spiegels

**Werking**  
Het spelen met de reflecties kan vanuit verschillende plekken waar je elkaar normaal niet zou kunnen zien. Bijvoorbeeld van achter een boom, vanuit een speeltoestel of gewoon door met de ruggen naar elkaar toe te staan. Spiegels kunnen klein of groot zijn en kunnen verplaatst worden. Ze zouden op verschillende manieren aan elkaar vast kunnen zitten of beweegbaar zijn, zodat verschillende manieren van weerspiegelingen kunnen bestaan.

**Contact**  
De spiegels kunnen leiden tot voor elkaar verstoppen en elkaar uitdagen. Oogcontact speelt hierbij een grote rol. Maar ook tot alleen op ontdekkingstocht gaan en misschien wel tegen iemand opbotsen. Kinderen kunnen verast worden door onverwachte reflecties en perspectieven en kunnen spelen met wie en wat je kan zien. Zoals omschreven kan het spelen met de spiegels op een vrije manier, vast op een plek of bewegend door de speeltuin. Het gaat hier niet om snelheid, maar meer om speelsheid en uitproberen. Daarnaast kan ook meer spelsgewijs met de spiegels worden gespeeld, door bijvoorbeeld een nieuwe manier van verstoppertje te spelen.

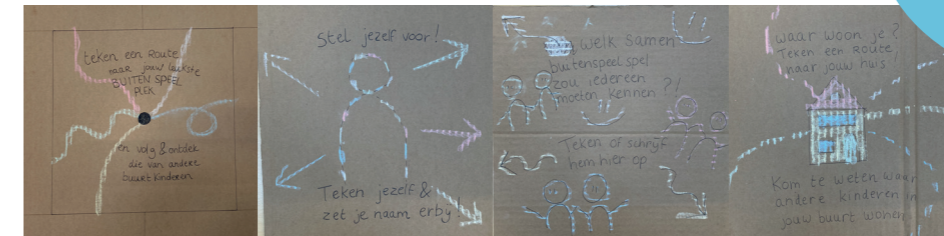
Extra ideeën:  
Bouwbare of montagebare blokken van spiegels maken, kijkgaten, verschillende periscopen, grotere spiegels, in de buurt verspreiden, kleur en tekst toevoegen

# Stoepkrijt Ontdekking



Illustratietekening

Prototypes



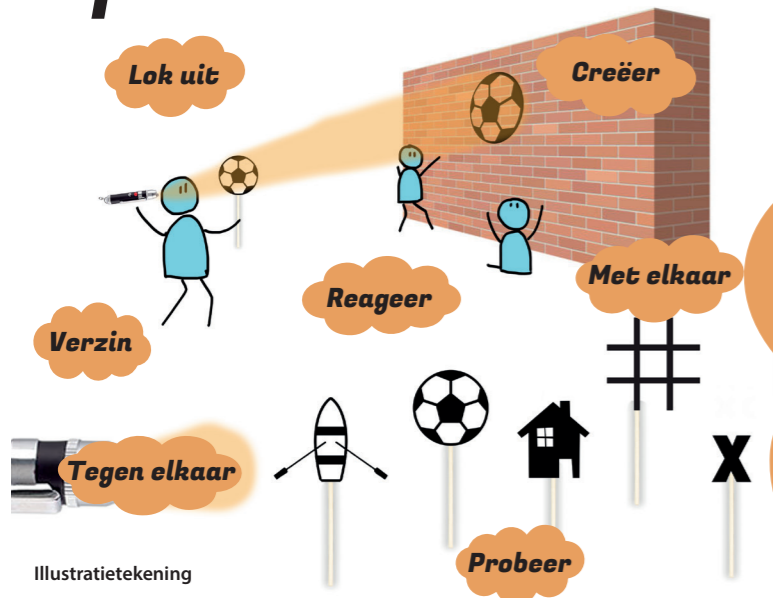
Met Stoepkrijt Ontdekking worden kinderen opgetrommeld om in hun buurt stoeptegels opdrachten te doen die elkaar en de buurt doen leren kennen

**Werking**  
Stoeptegels in de buurt worden vervangen voor opdracht stoeptegels die te maken hebben met elkaar in de buurt leren kennen en buitenspel plekken in de buurt en activiteiten leren kennen. Kinderen krijgen stoepkrijt thuis gestuurd als uitnodiging, waar ze de opdrachten kunnen uitvoeren. Stoepkrijt kan in een specifieke kleur worden gegeven, zodat aan de kleur herkenbaar is wie wat heeft getekend en geschreven. Opdrachten kunnen gaan over wie de kinderen zijn en waar ze wonen, waar leuke speelplekken zijn en wat ze graag doen bij het buiten spelen.

**Contact**  
Kinderen kunnen met stoepkrijt de stoeptegels opdrachten uitvoeren, op elkaars antwoorden reageren en elkaars antwoorden en routes volgen. Dit kan leiden tot het beter leren kennen van de buurt, de kinderen in de buurt, buitenspel plekken en activiteiten. Ze kunnen leren van elkaar en elkaar inspireren. Als de opdrachten om een georganiseerde tijd in de buurt worden uitgevoerd, worden kinderen gestimuleerd om naast elkaar bezig zijn, wat direct contact kan creëren.

Extra ideeën:  
Stoepkrijten in leuke vormen, stoeptegels in woonstraten bij speelplekken of plekken waar veel kinderen komen, meerdere thema opdrachten, voorbeelden geven

# Spelen met Schaduw



Illustratietekening

Prototypes



Met Spelen met Schaduw kunnen kinderen spelen met en reageren op gecreëerde schaduwen met als lichtbron de zon of een lampje

**Werking**  
Met verschillende 2D objecten en een lichtbron, welke is afhankelijk van het weer, kunnen kinderen schaduwen creëren op oppervlaktes. Schaduwen kunnen op verschillende plekken geprojecteerd worden, afhankelijk van de richting van de lichtbron, en op verschillende groottes en richtingen, afhankelijk van alle afstanden tussen en hoek tussen de lichtbron, object en ondergrond.

**Contact**  
Er is een verscheidenheid aan objecten, van meer abstract naar meer concreet. De verschillende objecten stimuleren vrij spel, maar ook het spelen van bestaande spellen met regels zoals bijvoorbeeld 3 op een rij, of het verzinnen van nieuwe spellen door kinderen. Verder zouden nieuwe objecten om te projecteren gemaakt kunnen worden of nieuwe schaduwvormen van de bestaande objecten. Met meerdere kinderen kunnen ook meerdere schaduwen gemaakt worden. Kinderen kunnen reageren op de schaduwen gemaakt door anderen of andere kinderen uitlokken met hun gemaakte schaduw, zonder dat ze verbaal hoeven te vragen of ze mee mogen doen. Ook kunnen ze tegen of juist met elkaar spelen.

Extra ideeën:  
Grotere objecten, 3D objecten, transparant gekleurde objecten, een object of zelf maak kit thuis laten sturen als uitnodiging, object vast kunnen maken / zetten

# Appendix 17: Extra test results from iteration 'Spelen met Schaduw'



Figure Fixme: In darkness with lantern with concentrated light



Figure Fixme: In darkness with lantern with difussed light



Figure Fixme: In darkness with flashlight, big object

## Use of 'Spelen met Schaduw' in different lighting environments

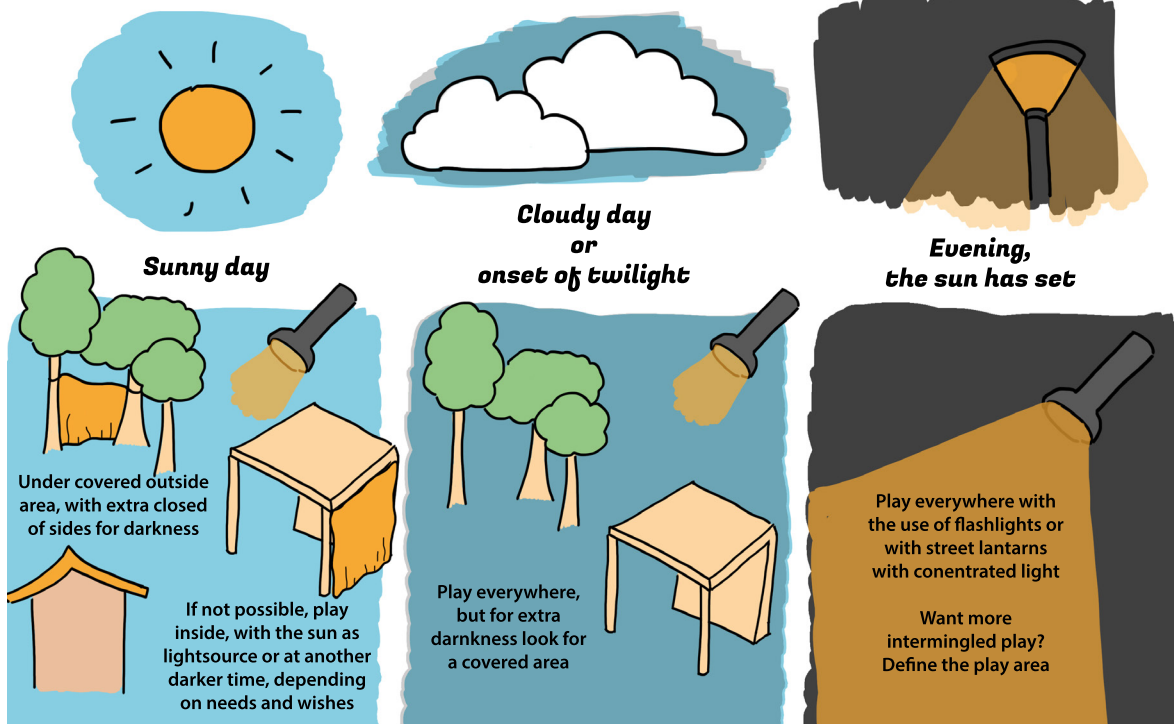


Figure Fixme: Use guide iteration of 'Spelen met Schaduw'