

# Creating positive experiences with nature

An exploration of storytelling's impact on children and their guardians

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OSLOMET

# Abstract

Spending time outdoors and in nature is known to be beneficial for your mental health and physical wellbeing. Regardless, people's perception of what being outdoors might involve, and their knowledge about nature, varies individually and culturally. These differences become increasingly visible in multicultural communities, such as at Romsås. Yet, the knowledge about why and how one can stimulate more activity in the local outdoors environment is low. This thesis, therefore, studies how we can design for experiences, behavior change, and activity in the outdoor areas at Romsås to increase the wellbeing of the residents. Furthermore, this study focuses on engaging children and their guardians to use the outdoors through storytelling.

Ethnographic research was conducted to obtain findings from the community and culture at Romsås. In-depth interviews, cultural probing, active and passive observations, and an analysis of a local Facebook-group's content were conducted and deliberated on in relation to existing theoretical data.

In some cultures, the woods are considered a place connected with fear and many do not have "the right to roam", *allemannsretten*, as Norway has. Without previous experiences with the woodlands, people do not know where to go, what to do or how to dress properly. Not knowing

leads people to not participate, meaning there is a need for guidance and an easily accessible information channel.

The research indicates that the pedagogic approach of using storytelling and drawing to collect data from preschoolers might give valid results. It impacts children's imagination, however, findings suggest that kids need the physical space that is researched upon. Children can easily contribute to stories as long as the conditions are correctly facilitated. This includes being present in the familiar environment, stating a short, clear, and simple task in addition to having a facilitator that listens while the kids perform and explain their assignment.

Bluppi Reiser is a design proposal that utilizes transmedia storytelling to inform and engage with children and their guardians in the local outdoor environment through play. The concept spreads across pedagogic books, a game app, and a web page, where it blurs the line between the real world and imagination. Enticing consumers to move around and discover new areas in the outdoors. Footprints extracted from the story mark pathways to local meeting places and hiking destinations. Children and adults help the alien Bluppi understand us through the facilitation of imagination, thus the participants can add and create more content to bring their personalized Bluppi to life.

As Bluppi is an abstract figure, it is a starting point that has the potential to introduce new topics in relation to events such as the litter picking day "rusken", discussion of hard feelings or cultural differences. Considering Bluppi being an alien, the character is by fault a vulnerable outsider playing on people's empathy to create engagement. The concept is dependent on the municipality taking responsibility for IT and management of the service. Further work should involve visualization of content and user testing to quality check the analysis done through this thesis.



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# Background

## 01

**Introduction**  
**Motivation**  
**Why Romsås**  
**Ethics**

# 1.1 Introduction

The aim of this master's thesis is to investigate how we can design for experiences, behavior change, and activity in the outdoor areas surrounding Romsås to increase the wellbeing of the residents. During the study's progression, it was decided to narrow down the scope to focus on engaging children and their guardians through storytelling. This thesis will present theoretical and qualitative research along with ethnographic studies, to give insights and understanding of the inhabitant's interests, experiences, and cultural behavior. The research, findings, and the iterative design process will lead to a suggestion for a service-designed solution.

Romsås is a satellite city and a sub-district (delbydel) in the north-east area of district (bydel) Grorud in Oslo. A sub-district is a geographical area within the given district. Romsås has one of the highest percentages of immigrants, see figure nr.1 (Oslo kommune, 2020b, p. 5). In other words, 52.5 percent of the inhabitants have a different cultural background than Norwegian. This leads the community to be highly multicultural. In 2007, the Romsås area-boost program was initiated. It lasted until 2016 and the year after, in 2017, a new area-boost program was launched, and it is set to be finished in 2026. The program's intention is to contribute to strengthening the local environment as it is exposed to poor living conditions. The goal is to develop better conditions for upbringing, education, and services for employment (Oslo Kommune, n.d.).

The satellite city borders the woodlands of Lillomarka and the living areas are connected with a number of paths and walkways. Considering the closeness to nature, it would be fair to assume that Romsås' inhabitants use the woodlands diligently, but that is not necessarily the case. Many inhabitants experience feelings of uncertainty and danger, especially in the sector around the shopping area, Romsås center, in areas with drug trafficking, in areas that lack maintenance and unlit places (Oslo Kommune, 2020b, p. 41). But is it just fear of darkness and drugs that

keep the people away from the woods and recreation areas, or are there other unknown causes?

Spending time outdoors is, in the Norwegian culture, considered important. Anthun, Maass, and Espnes (2019) state that green spaces can provide for social interaction, physical activity and promote contact with nature as well as psychological and social health (Anthun et al. 2019, p. 1). Furthermore, Anthun et al. (2019, p. 1-2) express that there is a link between green spaces and the development of community, identity, and relationship networks. What Anthun et al. (2019) does not describe is the definition of what green space is. This theme is recurring in other articles about urban green spaces as well. When the definition is not communicated, it can lead the reader to apply their own understanding of the term, which can further the misunderstanding of the term's, undefined, original meaning. In this study, green space is defined as outdoor space in your neighborhood where you are outside the buildings.

The lockdown of Oslo municipality has restricted the inhabitant's possibility to travel and socialize. The Norsk rikskringkasting AS (2021), NRK, reported in March that Oslo municipality prohibits people from having more than two visitors, and on the homepage of the municipality, it is clearly stated, under the Corona advice and rules page, that you should: "Avoid situations where infection can spread and stay at home as much as possible" (Oslo kommune, 2021). In 2015, the Norwegian Environment Agency (Miljødirektoratet) stated that municipalities have an independent responsibility in public health work through the Public Health Act (folkehelseloven), and to enhance the participation of people with a minority background in outdoor activities is a goal for the government (Miljødirektoratet, 2015, p. 25). Access and motivation to the use of the outdoors near people's homes are, therefore, crucial for the population's social, physical and mental wellbeing.

## 2.2. Utfordringsbilde i hvert områdeøft

Fakta grunnlaget om Groruddalen utgitt av Byrådsavdeling for finans (2016) viser forskjellene internt i bydelen for ulike levekårsindikatorer. Tallene viser prosent.

|                     | Redusert funksjons- evne | Lav utdan- ning | Fattige barne- hushold- ninger | Sysselsatte | Inn- vandrere | Ikke-vestige innv. med kort botid | Ikke fullført vgs | Trang- bodde |
|---------------------|--------------------------|-----------------|--------------------------------|-------------|---------------|-----------------------------------|-------------------|--------------|
| Oslo                | 13,7                     | 18,2            | 11,3                           | 77,6        | 32,5          | 3,8                               | 22,3              | 21,3         |
| <b>Bydel Grorud</b> | <b>19,2</b>              | <b>32,6</b>     | <b>15,6</b>                    | <b>72,1</b> | <b>48,9</b>   | <b>4,4</b>                        | <b>37,2</b>       | <b>28,4</b>  |
| Ammerud             | 18,6                     | 32,6            | 15,1                           | 73,2        | 47,7          | 3,2                               | 37,9              | 29,6         |
| Rødtvet             | 17,4                     | 29,2            | 11,9                           | 77,2        | 45,0          | 5,3                               | 33,4              | 21,8         |
| Nordtvet            | 17,8                     | 29,4            | 13,4                           | 76,0        | 43,9          | 4,6                               | 30,4              | 25,5         |
| Grorud              | 16,9                     | 33,5            | 18,7                           | 68,2        | 55,0          | 6,2                               | 37,1              | 27,5         |
| Romsås              | 23,0                     | 36,7            | 17,9                           | 67,4        | 52,4          | 3,9                               | 44                | 33,1         |

Figure 1, Utfordringer i hvert områdeøft, Oslo kommune, 2020b, p. 5

# 1.2 Motivation

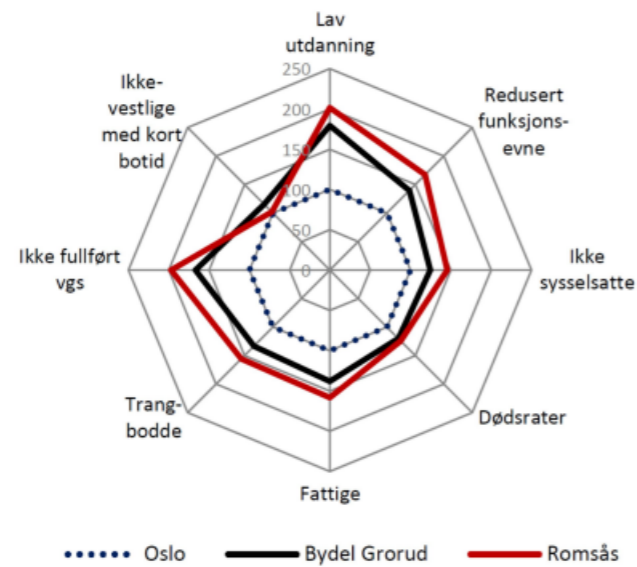
Understanding people's behavior, and decision-making, resonated well with our own desire to create good experiences. Furthermore, to increase the positive impact on people's health and benefit the municipalities' need for activation and participation of the population, resonated well with our interests in the creation of well-functioning and sustainable societies.

As a background for this thesis, we both share interests regarding being in nature and how one can utilize gamification and behavioral design methods to ethically nudge and change mindsets. The mind is a complex system, and as the name implies: complex, therefore, as an aid to understanding the complexity we will employ system-oriented design tools to investigate the communal culture at Romsås and to

analyze our final concept. As both of us got an internship and worked for Oslo municipality, "Groruddalssatingen", during the last year, we were eager to continue the cooperation with the district authorities in our Master thesis. Therefore, we approached the department manager and project leaders to discuss a possible collaboration that could benefit their area-boost program at Romsås. Among the suggested projects were projects targeting the outdoor areas at Romsås, the woodlands, and the absence of activity in these spaces.

The motivation peaked regarding why people do and do not choose to use their surrounding areas. This theme has become highly relevant with the Covid-19 pandemic, as people's outside time and traveling radius has been restricted by municipality rules and regulations.

## 2.2.2 Delbydel Romsås



Kilde: Byrådsavdeling for finans, 2016

Figure 1, Delbydel Romsås, Oslo kommune, 2020b, p. 9

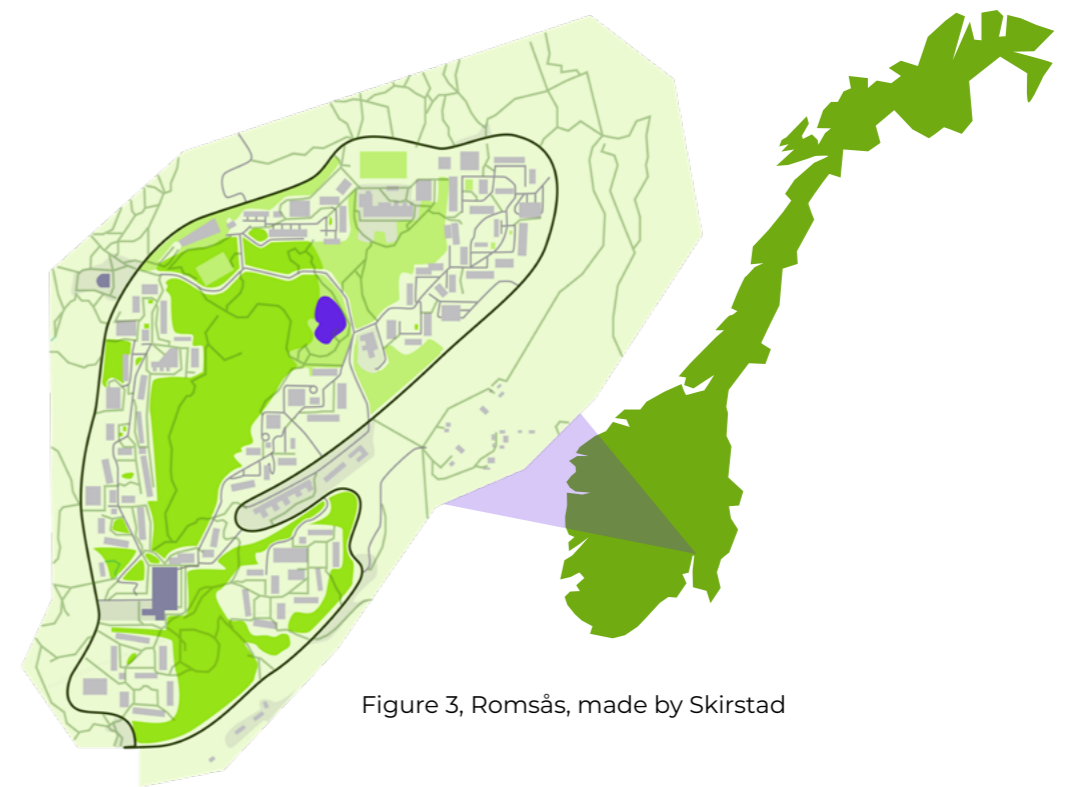


Figure 3, Romsås, made by Skirstad

## 1.3 Why Romsås?

Romsås was built in the 1970s and consists of 2600 OBOS apartments, distributed over six housing associations that give housing to 7000 inhabitants. It is a satellite city in the woodlands. As the area is a car-free zone in combination with lots of green space in its inner and outer surroundings, it was considered a great place to raise kids (lokalhistoriewiki, 2020). In its earlier years, Romsås had commercial buildings, homes, convenience stores, a shopping center, schools, a subway, a church, and a senior home. Romsås center was supposed to be the heart of the satellite city. It accommodated a junior high school, the senior center, a swimming pool, library, and rental facilities (Oppdaggroruddalen, n.d.). Today, the high school is merged with another junior high school at Romsås, Bjøråsen junior high school, and many of the rental facilities are unused.

In 1983 a TV broadcast was made to highlight the good and bad parts about living in Romsås from the youth's perspective. The video begins with the journalist asking people from downtown Oslo about what they have heard about Romsås. They answer that they have not heard anything good and that they have read in the paper about a center and drug abuse. The journalist then asks a young man if he has ever been to Romsås, and he answers "No, I've never been so unlucky, nor do I ever intend to go there, I think. I mostly

stay on the west side". Furthermore, the narrator states that the inhabitants at Romsås blame the newspaper for their bad reputation (Roger Arnhoff Studio a.s, 1983, 00:00-02:38). Reading more recent news articles, the statement is the same: The inhabitants at Romsås do not recognize what the media writes about them, Romsås is portrayed as a sad place. But in truth it has bustling life and unity, everyone greets everyone (Hellum, 2017; Eggesvik, 2018; Fransson, 2018; Aftret, 2003, Oslo kommune, 2020a, p. 44). There is not more crime in district Grorud than in Oslo as a whole (Andersen & Dæhlen, 2016). The news reporting and descriptions made by the media, combined with the rumors and collective assumptions about what Romsås is, made by those who are not from the area, have created discrepancies (Oslo Kommune, 2016b, p. 4). The gap between those who live and those who do not live at Romsås has been more or less consistent since the '80s.

Oslo municipality (2020b) articulates through the area-boost report Programplan that Romsås is the lowest scoring sub-district in district Grorud when reviewing the living condition indicators. Visualized in figure nr. 2 (Oslo kommune, 2020b, p. 9), it reveals that Romsås have challenges within the themes of the immediate environment, upbringing, and employment. This is because of the link between low employment rate, dropouts in high school, many with low education, and

a large proportion of people with reduced functional ability in the population (Oslo kommune, 2020b, p. 9). In several reports it is described that the inhabitants' feelings of fear relate to the poorly lit outdoor areas and scary people (Oslo kommune, 2016a; Oslo kommune, 2016b; Oslo kommune, 2016c; Oslo kommune 2020a).

In and around Romsås center there are in total 124 apartments designated for people with disabilities and municipal housing. The concentration of municipal housings elicits feelings of fear and unsafety for many, and it is often linked to drugs and alcohol (Oslo kommune, 2016a; Oslo kommune, 2016b; Oslo kommune, 2016c). Additionally, 33.1 percent of the inhabitants at Romsås suffer under cramped living conditions. This leads many young people to be more outdoors than visiting each other's homes. Romsås center, as it is a central meeting point, it is a natural place for the youths to meet up.

Romsås is described as a sleeping city since most people travel out of the sub-district to work. At the same time, there are 12 voluntary organizations stationed at Romsås and many dedicated people who want to participate and contribute. The report "Senior Tråkk, 2020" addresses the senior citizens' perspectives of Romsås. The seniors consider the church, sports club, and Romsås

beautiful surroundings as some of the positive aspects of living there, and the event called "Foodcourt" is mentioned as a favorite and exciting event (Oslo kommune, 2020a, p. 8-13). Romsås Food Court is a multicultural food market held at Romsås center where the food is made and sold by the residents. It celebrates the multicultural society in Groruddalen and Romsås (Groruddalen, 2019). Many inhabitants are proud and patriotic towards Romsås and its multicultural society, they feel strongly affiliated to their sub-district (Eggesvik, 2018; Hellum 2017; Roger Arnhoff Studio a.s, 1983, 15:50).

It is written in the area boost's program plan of 2020 that the lack of lights and drug abuse are contributing factors for the inhabitants not to use their immediate outdoor environment (Oslo kommune, 2020b). But it does not mention how people from other cultures may have a different view of outdoor areas and forests. They may also have previous experience with war and bad people using the woods for unlawful activities, and in some cultures, forest activities are not a part of their life at all (Appendix, p. II). For instance, a saying from the middle east was expressed to us during an interview: "Only crazy people go to the mountains" (Appendix, p. II). If you have not had previous interactions with the forest because of your cultural norms, and your own experiences you might be less likely to consider using it at all.



Figure 4: Graphical elements by Marsteen & Skirstad

How can we design for experiences, behavior change, and activity in the outdoor areas surrounding Romsås to increase the wellbeing of the residents?

## 1.4 Why activate people to go outdoors

The public health law (folkehelseloven) of Norway, states that the municipality is responsible to promote health and wellbeing. Furthermore, the municipality must provide good social and environmental conditions that contribute to level out social health inequalities and protect against factors that can have a negative impact on health for their inhabitants (Folkehelseloven, 2011, §4). Additionally, the responsibility to take necessary measures in order to meet public health challenges for their inhabitants such as living conditions, physical and social environments, and activity fall on the municipality (Folkehelseloven, 2011, §7).

Anthun et al. (2019) states that several publications indicate the link between green spaces, health, and well-being. Green spaces can provide for social interaction, physical activity and promote contact with nature. Some research also suggests that there is also a link to the development of community satisfaction, community identity,

and relationship networks (Anthun et al., 2019, p. 1-2). Urban open spaces can also facilitate social, economic, and ecological sustainability (Sundevall & Jansson, 2020, p.1).

Having local access to outdoor areas and green space can level out health inequality amongst a socio-economically disadvantaged population. Inhabitants who have less possibility to travel far are, therefore, more dependent on their local resources (Anthun, et al., 2019, p. 2). However, it is not a given fact that people use their local outdoors. Some perceive certain areas as unsafe for various reasons. Lack of light and crowds of people is perceived as scary, and green spaces can therefore pose a safety threat (Oslo kommune - Bydel Grorud, 2020, p. 11, 18, 25, 31; Anthun et al., 2019, p. 1; Skår, M., Rybråten, S., & Øian, 2018, p. 38). While others might feel as though a park belongs to specific societal groups (Sundevall & Jansson, 2020, p. 1; Skår, M., Rybråten, S., & Øian p. 46).

## 1.5 Ethics

All interview subjects received an information/ consent form with relevant information regarding what and how their information would be used in the project. The participants were asked for content before any recordings were conducted and all recorded meetings were kept off any online server and deleted by the end of the project. Names of participants were anonymized through a coding system.

Regarding children, a consent form was sent to their parents through their kindergarten pedagogues specifying their participation was optional with no consequence for their safety and relation to the kindergarten. There was no direct contact with the children and no last names were recorded making the children's participation anonymous. A police certificate was sent in and approved beforehand for the information gathering, and the data retrieved are not of sensitive nature.

### 1.5.1 NSD

An application was handed in and approved by NSD (Norsk senter for forskningsdata) and their guidelines and guidance were followed to the highest extent possible.

## 1.6 Research question

**Main:** How can we design for experiences, behavior change, and activity in the outdoor areas surrounding Romsås to increase the wellbeing of the residents?

**Sub:** How can children influence and spread knowledge to their guardians through principles from transmedia storytelling and game dynamics?



# Process

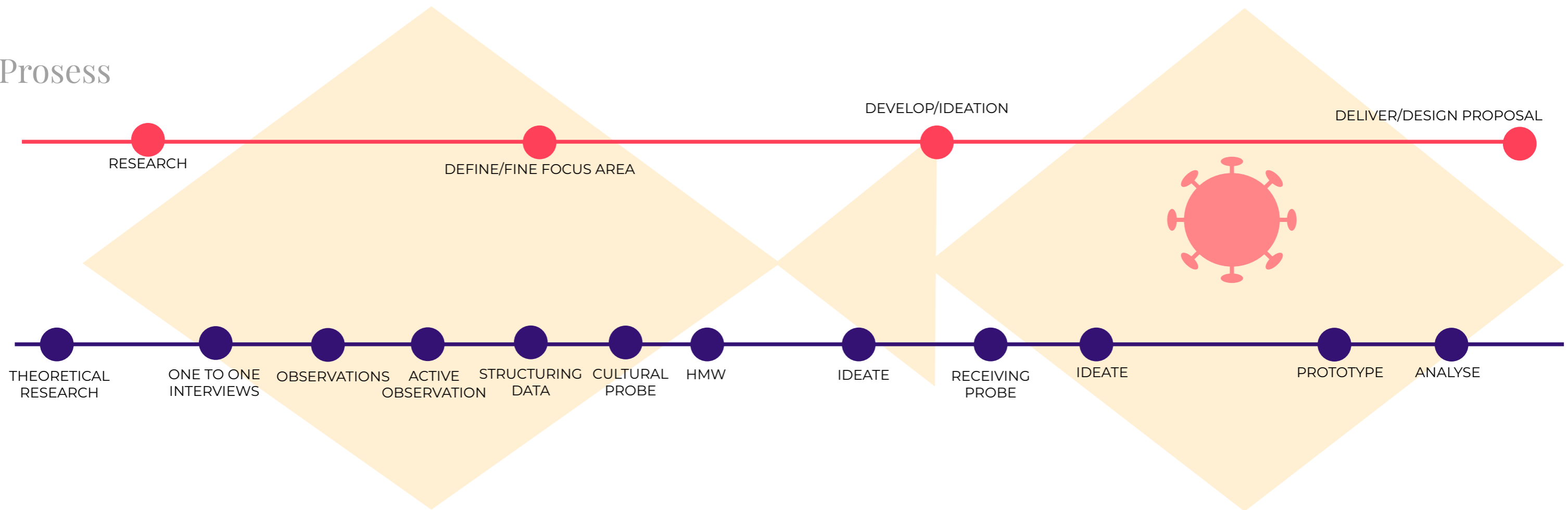


Figure 5: Graphical elements by Skirstad

## 1.7 Project boundaries

The deliverables of this Master study is to achieve a design proposal that answers the research question “How can we design for experiences, behavior change, and activity in the outdoor areas surrounding Romsås; to increase the wellbeing of the residents?” as well as to be of value to Oslo municipality. The design process was stepwise: 1. Discover/research, 2. Define/find a focus area, 3. Develop/ideation and 4. Deliver/design proposal/final concept. Considering that the broad main research question, it was decided to focus on a sub-question in this study; “How can children influence and spread knowledge to their guardians through principles from transmedia storytelling and game dynamics?”. The main focus will therefore be on preschoolers and their guidance. However, the delivery will touch upon how the design proposal can be further designed for older children. It is recognized that studying how to activate a broader or different age group could lead to other valid results. Due to the

restrictions related to the Covid-19 pandemic and the master thesis’ short duration, four months, it was necessary to limit the focus. The design proposal will be analyzed through principles from system theory and Donella Meadows’ 12 leverage points presented in chapter 2. The proposed design will be presented, discussed, and evaluated by contact persons from Oslo municipality and other potential resources. We might include other user tests if there are some openings within the pandemic rules and regulations. Since the aim of this study is to increase activity and wellbeing for the residents at Romsås, we acknowledge that our biases and perceptions of the world as young white females can influence the design process and interpretations of the data. To avoid these pitfalls, the study will rely on qualitative findings from interviews, observations, and cultural probes along with published theory and articles.

## 1.8 The Covid-19 impact on the project

This paragraph will give a brief introduction to the circumstances of producing a master thesis amid the Covid-19 pandemic.

Before the master thesis period began, it was planned for information gathering methods that could be conducted during the Covid-19 pandemic. However, the plans were made in relation to the rules and regulations that were in force at the time. The increase in restrictions were not foreseen, and therefore, methods such as spontaneous one-to-one or group interviews at Rosmås were deemed unreasonable to carry out.

Throughout the process plans had to be adapted and redesigned to the ever-changing rules and restrictions, leading to delays in execution and further work. For instance, at the beginning of the project period in January, we got in contact with a kindergarten at Romsås. The possibility to retrieve data from the kids through a drawing exercise, called cultural probing, was discussed. Originally,

we wanted to attend and listen while the kids drew with the pedagogues, but this was scratched at an early stage. Furthermore, the changes between yellow and red restriction levels, in addition to a virus outbreak, forced the cultural probe to be postponed several times. It was not before the beginning of April that the data was returned, and the interview with the employees was conducted.

Look at the project period visualization above, to study how step 1 and 2, discover and define, in the design process was altered as the data from the cultural probe was retrieved. This again led step 3 and 4, develop and deliver, to be postponed as well.

**02**

**Theory and  
Methods**

**Communicating and thinking  
through drawing  
Transmedia Storytelling**

## 2.1 Theory

The theories presented here had an impact on the design process and the final design proposal as well as the analysis of the latter. The theory and method used in “Communicating and thinking through drawing” were adapted for the design of a cultural probe that could create means of communication and data collection between kindergarten employees and the kids. Furthermore, principles from transmedia storytelling have been applied in this master thesis as a tool to activate and spark curiosity among children and adults at Romsås, and system theory has been applied as means for analyzing the design proposal and its perceived possibility to make changes in the system. Theory regarding state of the art can be found under mapping of literature.

### 2.1.1 Communicating and thinking through drawing

Papandreou (2014) argues that drawing eliminates verbal communication restrictions, especially for young children who often cannot express themselves clearly orally (Papandreou, 2014, p. 88). In addition to communication, children can use drawing to help explore and understand their surroundings and develop their thinking and drawing skills. This is considered by many educators and researchers as one of the children’s visual languages (Papandreou, 2014, p. 87, 92). To depict their surroundings, the child must either observe and explore empirical data and then reflect on what they have seen, or they can recall and reflect on previous experiences. The process of recalling and reflecting can be enhanced through drawing activities as it lets the child assess their experiences, discuss, and share with others during the visualization process (Papandreou, 2014, p. 92-93). The method described by Papandreou (2014, p. 93) consisted of a fairytale with a problem that the children then had to discuss and draw to find their solution to. Thereafter the children were asked to explain their drawings. Papandreou (2014) concludes that children use drawing to communicate with others and that it is often done as a combination of both verbal and visual communication (Papandreou, 2014, p. 97).

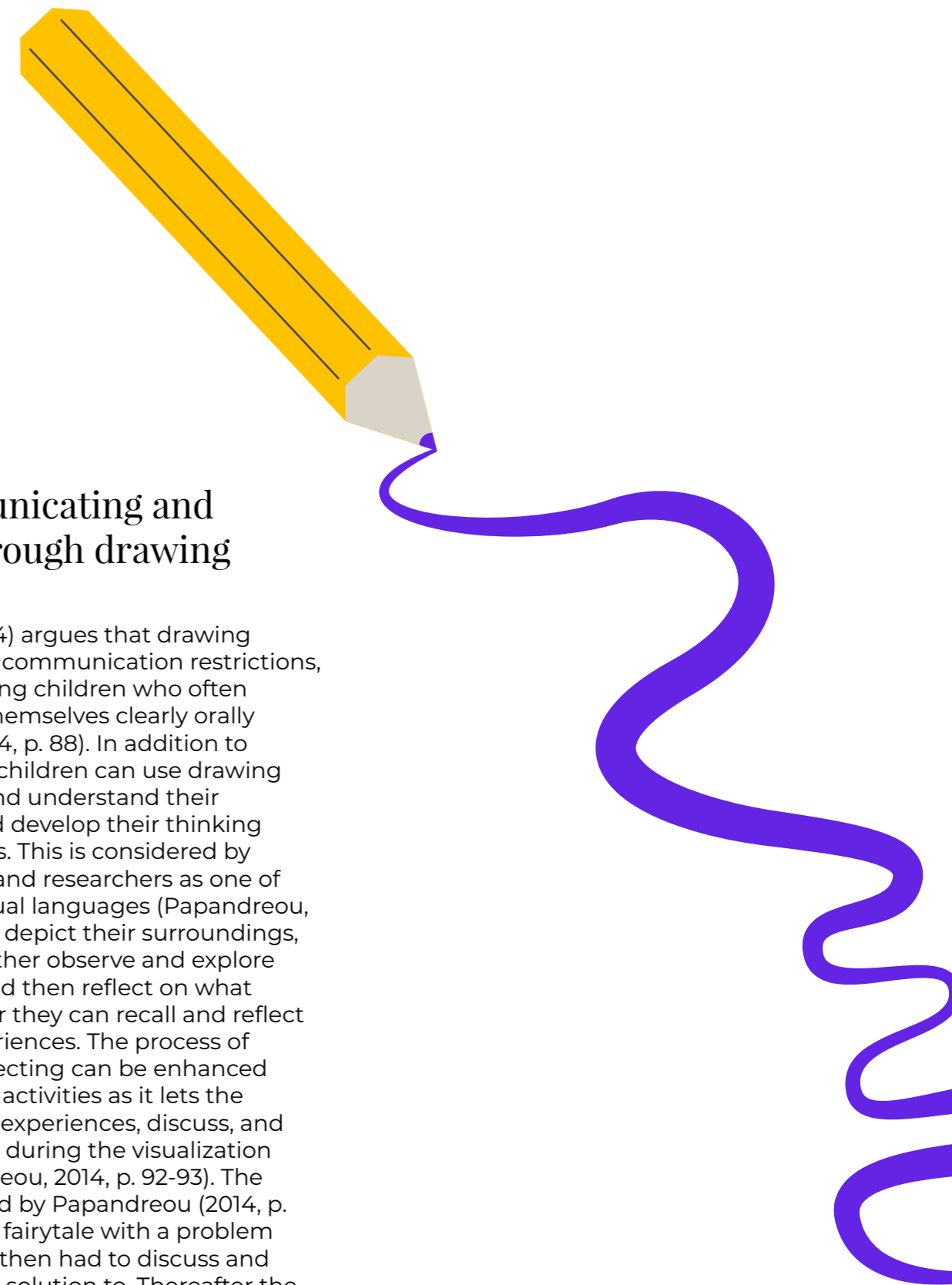


Figure 6: Graphical elements by Skirstad



Figure 7: Graphical elements by Skirstad

## 2.1.2 Transmedia storytelling

Transmedia storytelling was first introduced into the mainstream media by Henry Jenkins in 2003. The theory has no clear agreed-upon definition, but Jenkins offers the following description: "Transmedia storytelling represents a process where integral elements of a fiction get dispersed systematically across multiple delivery channels for the purpose of creating a unified and coordinated entertainment experience" (Jenkins, 2010, p. 944). In other words, while the story unfolds, each medium should make its own unique contribution. Transmedia storytelling may include an aspect of self-creation through

participatory practices such as fan fiction and cosplay. This adds new adventures and further expands the direction of the story (Jenkins, 2010, p. 948). Another example of transmedia storytelling can be experiences linked to play. Where representative toys can expand the understanding of the story as well as reshape and broaden the transmedia narrative (Jenkins, 2010, p. 945).

Henry Jenkins (2009a, 2009b) has defined transmedia storytelling through the following seven principles:

### 1 Spreadability and drillability

Spreadability covers the possibility of media content to be spread across multiple network platforms through the public's own engagement. Through this process of expansion, the cultural worth and value enhances, but it does not necessarily encourage extended engagement which is where drillability comes into play.

Drillability engages less consumers, but opens the possibility and encouragement for them to dig deeper into the content to understand the complexity of the story (Jenkins, 2009a).

### 2 Continuity and multiplicity

Continuity refers to the storyline being perceived as continuous and coherent when assembled in the correct timeline by the consumer (Jenkins, 2009a).

With Multiplicity the same storyline is being retold in a different genre, setting and more. This allows fans to revisit the story while still getting a fresh perspective and one can reach a far bigger specter of consumers with different preferences (Jenkins, 2009a).

### 3 Immersion vs. Extractability

Immersion speaks of the ability for the consumer to experience being inside the world of the narrative. This can refer to panorama boxes and video games as well as theme parks (Jenkins, 2009b).

Extractability describes the possibility to bring parts of the story into the physical space of the consumers everyday lives. Examples are Toys and costumes (Jenkins, 2009b).

### 4 Worldbuilding

A good story no longer relies on only one storyline, but rather a world creation which can support multiple characters and interconnected stories. This can in turn be published across multiple platforms (Jenkins, 2009b).

Worldbuilding allows for drillability where fans can map out connections between characters, worlds, and timeliness. Furthermore, the lines can be blurred between fiction and reality through extractable fictional material from these worlds. Such as mock-posters and fictional fandoms (Jenkins, 2009b).

### 5 Seriality

Within transmedia storytelling the storyline is often spread across multiple different media platforms in pieces of different length and format. The story is therefore often consumed in different orders depending on the consumers motivation, access, and knowledge about the publications. How this order of consumption influences the consumer and what motivates them to seek it out is yet to be explored to the fullest (Jenkins, 2019).

### 6 Subjectivity

Subjectivity relates to experiencing and comparing multiple points of view of the same fictional event. These can be spinoffs that focus on secondary characters within the original story thus providing additional backstories as well as multiple characters perspectives such as hearing the story of little red riding hood from the wolf's perspective (Jenkins, 2009b).

Another example of subjectivity is "found footage" in movies and novels containing diary entries or letters, mock websites, and social media accounts for the characters. The consumer is encouraged to consider it as real, adding subjectivity to the story (Jenkins, 2009b).

### 7 Performance

It is becoming increasingly common for producers to design for active participation. Leading the hardcore fans to create performances or content that can be added as an extension of the commercial transmedia storyline. Jenkins (2009b) describes these producers as cultural activators.

An example of activators is flashing cryptic texts or pictures for a few seconds on the screen which can activate the fans to use, share and interpret the new information through online channels. Jenkins calls this cultural attractors, something designed to draw the community together over common interests.

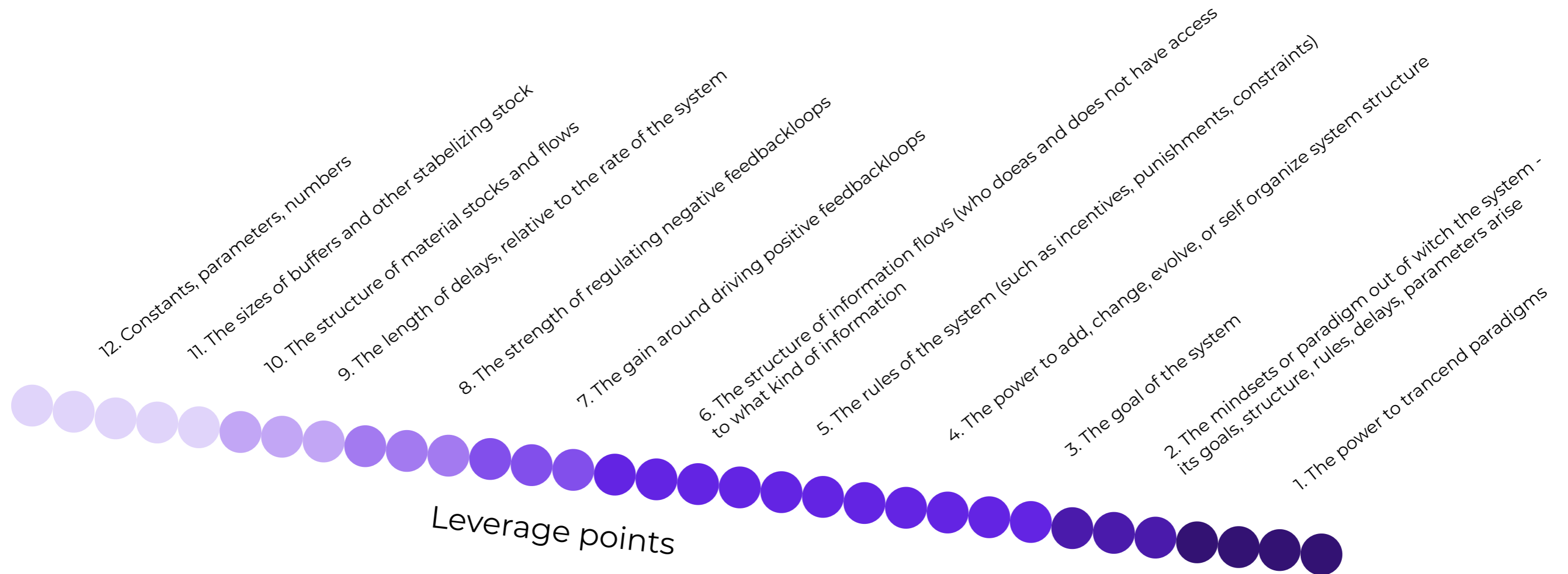


Figure 8: Skirstad based on Meadows model

## 2.1.4 System theory

Systems theory is a methodology that is used to understand big and complex systems. "A system is a set of things—people, cells, molecules, or whatever—interconnected in such a way that they produce their own pattern of behavior over time" (Meadows, 2009, p. 2). Every system consists of three things: *elements*, *interconnections*, and a *function or purpose*. For example, in your digestive system the elements include your teeth, enzymes, stomach and intestines; they are interconnected through the flow of food and regulation of chemical signals. The overall function of the system is the flow, breaking down food into nutrition and transferring them to the bloodstream (Meadows, 2009, p. 12).

The foundation of any system are its elements that you can measure, count and feel, also called *stocks*. The stock is influenced by *flows*, inflow and outflow (Meadows, 2009, p. 17-18).

*Feedback loops* occur when changes in a stock the inflow or outflow of the given stock. Usually, the stock is increased by inflow and decreased by outflow. A feedback loop is formed when changes in a stock affect the flows into or out of that same stock. The stock can maintain the same level, increase or decline, depending on the type of feedback loop. A type of feedback loop can be *stabilizing feedback*, meaning the stock will stay fairly leveled with only small changes. Another type can be *reinforcing feedback*, meaning it will enhance the existing stock

forever, or forever decrease in size. It is reinforcing the existing stock (Meadows, 2009, p. 25-31).

*Leverage points* are described by Donella Meadows as places in a system where one can intervene to create big changes in everything (Meadows, 1999, p.1). On Meadows list of places to intervene, number 12, changing constants, parameters and constraints is described as the leverage point with the least leverage. Changing parameters will rarely affect behavior over time.

Intervening in the points regarding behavior and feedback mechanisms (point 8-6) can elicit greater impact as they have more control and information in the system (Meadows, 1999, p. 9-13).

By changing the rules, structures, and goals of the system, point number 5-3, one can make big changes in the system as these leverage points can force change upon the stock, flows, feedback loops and self-organization behavior (Meadows, 1999, p. 13-17).

The system's content is formed by its paradigms which is what leverage point 2-1 discusses. Paradigms are by fault hard to change, but by pointing out anomalies to those with an open mind, changes can be made, leverage point nr 2 (Meadows, 1999, p. 17-18). Transcending paradigms means to change the values and priorities that lead to assumptions, being able to evaluate and choose between several value sets, leverage point nr 1 (Meadows, 1999, p. 19).

## 2.2 Methods, Datagathering

As the pandemic has limited direct contact and engagement with people, the research collected in this thesis revolved around ethnographic studies such as analyzing inhabitants' online behavior and digital Teams interviews, as well as a cultural probe in a kindergarten and observations. These methods are all a part of ethnographic studies. Furthermore, gamification and context of experience was applied as methods for engagement, to ensure the ideas and design proposal's value creation in a time with limited user testing possibilities.

### 2.2.1 Ethnographic studies

Lazar, Feng and Hochheiser (2017) explain that recognizing people's individuality with their cultural differences can be crucial for a successful design. This requires in-depth studies and direct engagement in people's daily lives in order to understand complex human practices and cultural processes, in order to get a rich perspective. Ethnographic studies are done in a combination of observation in the field, interviews with the user group, and participation where the activities often are intertwined (Lazar et al., 2017, p. 239-231). It is important to acknowledge that individuals often describe inaccurately what they do as they might lack awareness over the reason for why they do it or they want to present themselves in a certain manner that is more socially acceptable. Context is the main focus of understanding, and as a goal, ethnographers are often telling the story behind the studied context (Lazar et al., 2017, p. 231-232).

#### 2.2.1.1 In-depth interviews

In-depth interviews are conducted in a one-to-one setting, to gain insight, uncover needs and gain a deeper understanding. Talking with only one candidate at a time can help the participant to gain a feeling of confidentiality and give a safe space to be more open and honest. The interview is seldom conducted with a strict question form. Instead, it relies on a semi-structured interview guide which allows the participant to talk freely about the subject in question. This interview approach can uncover information that the researcher did not foresee (Lerdahl, 2015, p. 80-81). The interview usually starts with a brief explanation of the interview's purpose, the privacy of the user and moves on to a loose informal chat before the interview begins. This gives room for a more relaxed setting where the participant can feel more comfortable. At the interview's beginning it is important to keep questions open and refrain from leading questions, follow-up questions should be asked to gain accurate and in-depth information (Lerdahl, 2015, p 81).

One-to-one interviews were used to uncover needs and ideas for further work in the early stages of the study. An Interview guide was written and loosely followed in order to let the interviewee deviate and give insight into topics that were important to them.



Figure 9: Graphical elements by Marsteen

### 2.2.1.2 Associational pictures

Associational picture cards as an interview method can give concrete references in the conversation to enrich the discussion and provoke reactions from the participant. The human's decision-making is to some degree controlled by emotions, thus using abstract and concrete picture cards can create moods and reactions that would be harder to provoke without this tool (Lerdahl, 2015, p. 82). Lerdahl describes how an interview can be as rewarding for the interviewee as for the interviewer since it helps gain insight and understanding around the subject in an unconventional way (Lerdahl, 2015, 81-82).

Picture card was supposed to be used in an unstructured outdoor interview setting with the attempt to provoke people to explore their associations regarding the local environment at Romsås and the inhabitant's emotional bond to the place.

### 2.2.1.3 Observations

Observations of people in a natural setting through being out in the field can help uncover needs and get a deeper understanding of behavior (Lerdahl, 2015, p. 83-84). It can help get a more realistic view of what they do rather than what they say they do (Milton & Rodgers, 2013, p. 21). Active observation through asking why questions can also uncover the underlying psychology behind these actions (Lerdahl, 2015, p. 83-84).

Observations were conducted to get an understanding of user behavior in urban green spaces and how they interact with their surroundings as well as actively getting an understanding of an inhabitant at Romsås use of the forest.

### 2.2.1.5 Design probes

Probing is an experimental research method, based on user participation, it provides "inspirational data" that could be further used in the design process. Meaning, the information sent back to the researchers from the participants is not meant to be scientifically analyzed and define problem areas, but rather stimulate for ideas and communication without the researcher's presence (Graver, Dunne & Pacenti, p. 25, 1999; McDugalls & Fels, p. 57, 2010). Selected material, assignments, and/or instruments are put together to inspire to answer research questions through self-documented experiences, thoughts, perceptions, and ideas. Through the probe material, one should strive to understand human phenomena. Rather than solving existing problems, the probes are exploring new opportunities (Mattelmäki, 2006, p. 11- 12 & 40).

Design probing was used to generate user-centered research material during the Covid-19 pandemic where human contact was limited. Elements and principles from the probing method were applied during the research process of this thesis to get a deeper understanding of Romsås and the humans living here.

### 2.2.2 Giga mapping

Giga mapping is a tool for visualization of complex systems. It allows the spectator to view the system as a whole and investigate parts in detail as it does not separate the information and communication (Sevaldson, 2011).

In this thesis giga mapping has been used to structure research papers and data, followed by a zip analysis to investigate similarities, anomalies and to get an overview of the findings. Additionally, the method has been used to communicate the design proposal and its features.

## 2.2.3 Methods for engagement

### 2.2.3.1 Gamification

Gamification is the use of game design elements in a non-game context where the purpose is to make situations more interesting and engaging. Additionally, it can be used to motivate action, promote learning, and solve problems (Sjøvoll & Gulden, 2016, p. 2; Jørgensen & Mortensen, 2013, p. 242). Gamification consists of three basic factors: motivation, ability level and triggers. These themes are connected to human psychology where rewarding specific behavior. This relates to gamification where rewards and penalties are given through points, badges, upgrades, or downgrades (Alsawaier, 2017, p.61).

*Motivation* and engagement are two separate terms that do not necessarily mean the same thing. Alsawaier (2017) explains that *motivation* is driven by behavior and choice-making, while engagement relates to the energy behind actions and tasks (Alsawaier, 2017, p.61).

*Framing* relates to how a person views and reacts both before and during a given situation. For instance, it is viewed as normal to tackle each other in a football match, but if you do the same to a person on the street, people will have a completely different reaction to your action (Sjøvoll & Gulden, 2017)

*Nudging* is a tool for guiding, steering or gently pushing people to make decisions and help them live according to their own best interests. The human brain constantly makes decisions and at times the decisions made can go against the persons long term goals or values. These decisions are made by the automatic level of the brain. It is highly

effective and bases its decisions on urges and needs in contrast to the reflective level that decides based on past experiences and deeper evaluations. Knowing how to guide the automatic decision-making part of the brain should not be done without giving the user the freedom of choice (Hunnes, 2016, p, 1-2).

Some gamification features include: *avatars*, *quests* and *challenges*, *badges*, and *points* and *levels*. The avatar is representing the player. Through the avatar, the player can ponder and play out different versions of themselves, be vulnerable and project their aspirations onto the character.

Quests and challenges activate the person's critical thinking and feelings of adventure by applying elements of exploration and discovery. In addition, quests give room for cooperation with other players, learning and interaction as a team. (Alsawaier, 2017, p.66-68)

Badges are validated indicators of accomplishments. They have motivational power and can say something about the players reputation and identity. Furthermore, badges can elicit feelings of pride and satisfaction if they are displayed for everyone to see. Points can drive the player forward and it can be an essential part of a gamified world. However, rewards have little effect on highly motivated players as the rewards are reinforcing the wanted behavior, but once the wanted behavior is established, the points have no higher purpose. (Alsawaier, 2017, p.66-68)



## 2.2.3.2 Context of experience

Context of experience is a design tool to elicit consumer-product-attachment. It is a psychology-based design tool created to restrain the rate of product replacement. Product attachment can be defined as the strength of the emotional bond and experience between the consumer and the product (Gulden & Moestue, 2011, p. 1-2). Some strategies to elicit product attachment include mastering complex products to provoke pride, personalization such as memories, self-expression and group affiliation, and products that can evolve and

change depending on the consumer desire. Furthermore, if a product is recommended by a figure of authority, scarce and associated with inner consistency it can influence the person to further use the product (Gulden & Moestue, 2011, p. 3).

This influence are psychological mechanisms, cognitive shortcuts that can persuade a person to consider a certain behavior in a given context. **The persuasion principles are as follows:**

### Reciprocating

The act of receiving a gift and feeling obligated to give something back

### Social proof

The decision of what the right thing to do in a given situation is based on the examination of what other people do.

### The principle of competition - social comparison

People have the tendency of performing a targeted behavior if they can compare their performance with others.

### Commitment and consistency

Commitments made in writing can make a person more persistent to keep the promise. The more effort you put in the more you feel obligated to continue.

### Authority

Humans tend to obey authority even if the authorities command goes against their will.

### Principle of convenience

Experience of convenience and easy access persuades people more easily

### Scarcity

Limited edition products generate demand as they are perceived as scarce and more valuable.

### Contrast phenomenon

Creates change of perception through experience. A great product will look worse compared to an amazing product.

### Liking

Being persuaded by people one likes or are alike.

(Gulden & Moestue, 2011, p. 5)

Ownership and how to influence and change consumer behavior consists of five stages: Pre-purchase, point of purchase, product, use and late use/planning replacement/post use.

### Pre-purchase (Pre-POP)

Activating a potential buyer can make them consider a change of habit. Fantasizing about owning and using a product can strengthen the product attachment.

### Point of purchase (POP)

Strategic planning of the display and placement of the product can influence people to consider alternative solutions, after activation in the pre-purchase phase.

### Product

Experience and feelings can be brought forth by the products' bodily geometric and semantic properties, for instance trigger associations, memories, recognition and habits.

### Use

The frequency of past behavior determines the degree of habit strength.

### Late use/Planning replacement/post use

It is important to be aware of the thoughts of replacement and the planning process related, as the designer can for example facilitate proper disposal of parts. (Gulden & Moestue, 2011, p. 7-8)

# Data gathering

## 03

**Litterature**

**Observations**

**Interviews**

**Change in direction**

**Facebook analysis**

**Unstructured inter-  
views**

**How might we**

**Probing**

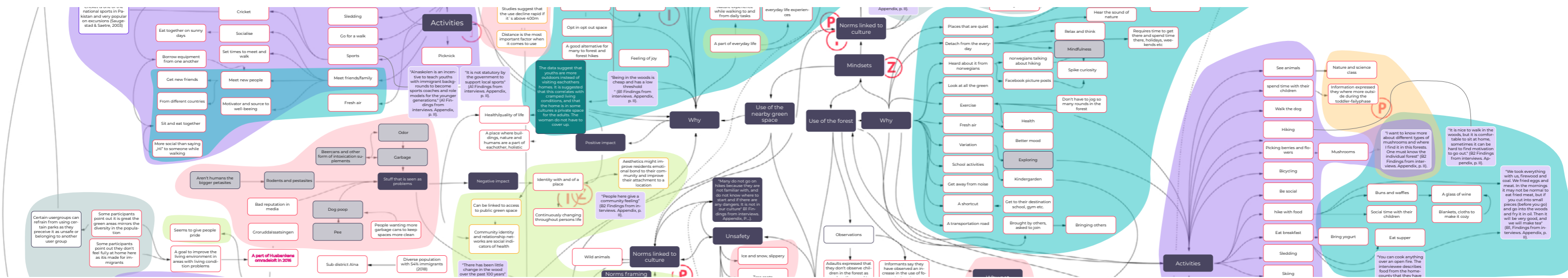


Figure 10: Snipping from giga map by Marsteen & Skristad

### 3.1 Existing literature and data

Based on Sevaldsons giga mapping method (2011) for structuring and understanding data, a literature map was made, which was further connected to interviews to validate the findings. (Giga map) The mapping addresses research articles regarding green spaces, in-depth interviews, as well as inhabitant involvement reports from Oslo Municipality. All articles included in the literature map investigate the usage of various types of Scandinavian landscapes to limit the data to information of relevance as landscapes are closely connected to use. Seven themes were uncovered: 1. Incentives to go outdoors (marked in blue in the literature map), 2. Perceptions and biases (gray), 3. Identity feeling (green), 4. Activities (purple), 5. Physical obstacles (pink), 6. Fear and unsafety related to not knowing (red) 6.1. Other reasons for unsafe feelings (red with an outline) 7. How to feel safe and gain knowledge (orange).

The in-depth interviews were conducted over Teams, where the participants received an overall interview guide beforehand. This was done to give the interviewees time to prepare and to ease potential anxiety towards the unfamiliar situation. Deviations were encouraged to gain insight into topics that were important to them. The interview guide was therefore loosely followed.

Two inhabitants from district Grorud, one expert in activation and orienteering and one expert from the Norwegian Environment Agency were interviewed. We acknowledge that the sample of inhabitants interviewed in this thesis is small, leading the information not to cover, and represent the entirety of

Romsås diverse population. This can cause the findings to be true for some people whereas other inhabitants might not relate to it. Nevertheless, findings from the interviews correlated with data gathered through literature, leading the findings to be considered valid.

Through the literature it was suggested that people get motivated to go outdoors to socialize, improve their mood, detach from everyday life, relax, think and experience nature (Sundevall & Jansson, 2020; Skår, Rybråten & Øian 2018). Furthermore, it was highlighted that people's perceptions of what green space is, and who it is for is varied. With the mindset mastery over nature, it is believed that the human is distinctively different from nature and that one can control and exploit it as it pleases the person sees fit. On the other hand, is the mindset of harmony with nature, which relates to thinking and behaving in ways that are connected and harmonious with nature (Haas, Hoeft & Omura, 2021). As people's mindsets and motivation for going outdoors can be varied, it must be considered that everyone's needs cannot be met through one specific activity such as hiking in the forest.

Skår et al. (2018) elaborated on how that facilitation can lead people to believe that a park is created for a specific societal group such as immigrants, and parents can feel left out and bored at playgrounds as they cannot participate in play because of their physical size. Anthun et al. (2019) discuss the perceived quality of greenspace and suggested that people facing socioeconomic disadvantages

lack satisfaction in the quality and availability of paths. During an interview it was expressed that going on hikes has a low threshold as it is open for everyone. However, if people are not aware of the value that lies in the green spaces or they do not know how to do the activity, they might not think about going on hikes at all (Appendix, Findings from interviews, B2, A2, p. II) This can point to how limited options might influence the perceived quality of the local environment, and how a lack of knowledge might limit use further.

Theme number three, identity feeling, revolves around how people take pride in their local environment and what is said to be "Norwegian". Having easy access and a refurbished local environment can improve residents' emotional bond to their community and improve their attachment to a location (Anthun et al, 2019). Skår et al. (2018) stated that some informants mentioned they started walking to "become Norwegian", and the group with immigrant background gave the forest areas less significance compared to residential nature. This might suggest that the ones with immigrant background spend more time in their local environment compared to other inhabitants. The research paper discussed further the misconception of what Norwegians do, suggesting that it is a myth that Norwegians are more outdoors than immigrants (Skår et al. 2018).

Other reasons for inhabitants with immigrant backgrounds to not give as much significance to the forest area might be because the forest is not a part of their culture and upbringing. During the in-depth interviews

it was mentioned that international students and people with immigrant backgrounds might find the woodlands scary and that many lack knowledge about the Norwegian forests. Relating the fear to dangerous people, predators and getting lost (Appendix, Findings from interviews, B1, B2, A1, A2, p. II). "Immigrants are often afraid of going into the woods. Bad people, dangerous animals and governments that ruin nature, are often present in the woods of their home country" (Appendix, Findings from interviews, B1 p. II). It was also expressed that walking in the woodlands is not a part of many immigrant's culture. Furthermore, some might be scared because they for instance were told as a child that they would be left in the forest if they did not behave (Appendix, Findings from interviews, A2, p. II). The combination of not using the forest as a family and scaring the children can lead people to fear the forest throughout their childhood and into adulthood. Regarding activities, both winter and summer activities were mentioned as well as eating food, doing homework, exercising and walking the dog (Skår et al. 2018).

Physical obstacles relate to slippery paths, distance to activity areas, lack of lights, the cold in winter and lack of someone to go out with. Children mentioned that playgrounds can be boring if they are overcrowded or not challenging enough (Oslo kommune, 2016a, 2016c, 2020a; Skår et al. 2018; Syndevall & Jansson 2020; Anthun et al. 2019). The physical obstacles are also, as we see it, closely related to fear, unsafety and lack of knowledge. for instance, not knowing how

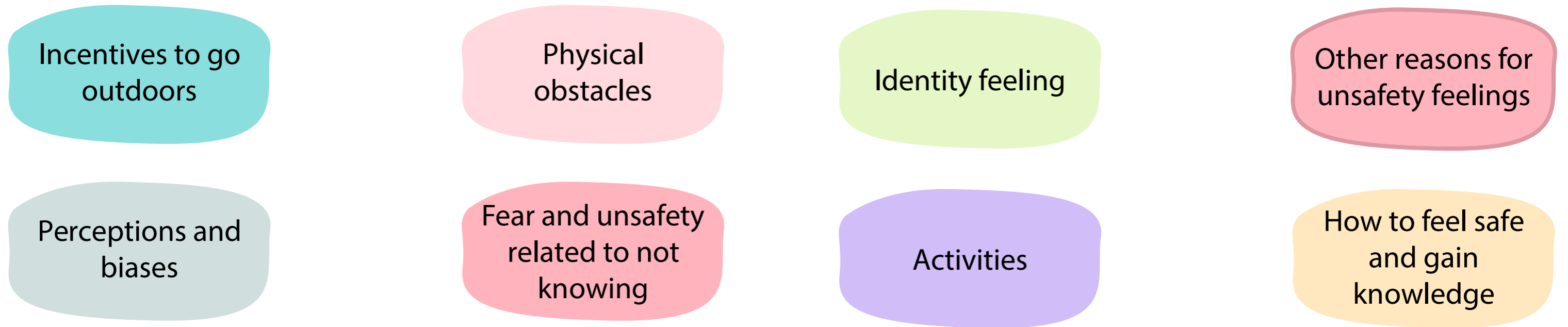


Figure 11: Main themes from gigamap by Marsteen

to ski can cause embarrassment (Skår et al. 2018), and coming from a different culture one might not have the same knowledge about what to expect, how to dress and if walking in the woods is dangerous for the kids or not (Appendix, p. II; Ince, 2020, Skår et al. 2018). A common theme that stretches across all age groups regardless of backgrounds was the feeling of safety, lack of knowledge and a need for information.

What is considered safe and elicits familiarity and knowledge is described as social safety such as friends, people and natteravner (an organisation). Safety is also lit up places, activity areas, signage and to know where you are. Knowledge can be gained through nature- and science class and getting familiar with nature and forest through work trips and their kids in kindergarten (Oslo kommune, 2016a, 2016c, 2020a; Skår et al. 2018).

Based on the research done by Anthun et al. (2029), Skår et al. (2018) and Sundevall & Jansson (2020) it is argued that urban nature is a good alternative for a multicultural city, and the nature experiences that are encountered close to home are appreciated the most by people with immigrant background, youths and children. Additionally, children seem to spend more time in residential nature areas than woodlands

(Anthun et al. p. 32). This is also evident in children's walk, barnetråkk (Oslo kommune 2016a p. 11). The studies emphasize how it is not necessarily a goal for everyone to use the forest, but that a walk-in residential nature can suffice in terms of mental and physical health, and green areas had a high value for the identity of the place (Skår et al. 2018, p. 20, 50)

As described earlier, the use and value of forests are often unknown to people with immigrant backgrounds and sometimes connected to scary animals or the belief that the land is private. However, when one first starts to appreciate the forest areas, it is the same aspects that are valued regardless of nationality (Skår et al. 2018, p. 17, 59).

It can therefore be seen as important for municipalities to not only facilitate the use of green space and urban forests such as park management, proper signage, lighting, play and exercise grounds, but also actively use methods that help activate and motivate their inhabitants to want to use the space provided for them. With the urbanization growth and city densifying it can be more important than ever to motivate people to seek out green spaces for the sake of their well-being.

### 3.1.1 Summary of findings

- Norms from culture and upbringing and nationality can lead to lack of knowledge or different use of outdoor areas.
- Mindsets: feeling superior over nature VS being in harmony with nature and perceptions of who an area is made for can lead to absence of use.
- Getting cut off from nature through facilitation, gravel paths, asphalt can restrict exploration.
- Too much facilitation can make people not want to go there for various reasons.
- Too pretty.
- Not "natural" enough.
- Lack of other options regarding where to go can influence the perception of the area.
- Identity with and of a place.
- Elderly enjoys nearby nature areas because of mobility and accessibility.
- Youths and children seem to enjoy nearby facilitated playgrounds and greenspaces.
- More people are outdoors in the summer than the winter, while dog owners are outside all year around.
- Passing by/through the parks is a nice way to start the workday, experiencing something new every day.
- Peoples use and need for green spaces are varied.

## 3.2 Observations

### 3.2.1 Passive observations

Observations were conducted over 3 sessions in Oslo city center. Walking and observing between Nationaltheatret to Aker Brygge during session number one, and from Alexander Kiellands plass along Akerselva to Grünerløkka and down to Grønland during the second, and lastly observations were made along the pier at Bjørvika. Lerdahl (2015) states that observations can be used to uncover needs and potential new solutions. Therefore, the objective was to investigate what activities people were doing and where they were walking and meeting up. Additionally, it was of interest to observe what people were not doing and what facilities were left unused. Two of the three sessions were conducted while the winter snow was in full force. The last session at Bjørvika was organized in springtime after the snow had disappeared.

#### 3.2.1.1 Findings

Photoshoots seem to attract youths and adults, taking pictures of each other and their dogs. Placement of objects and statues as well as aesthetically beautiful or well-known surroundings facilitate photography.

Teenagers and adults seem to meet up to socialize, for children it is less about the social aspect and more about the activity. In winter most families were sledding, meeting up in the parks with hillsides. The guardians would either attend the activity or stand still watching and talking to other grownups.

Benches and ping pong tables were left untouched while it was snowing. It was observed that people were standing next to benches, but they did not take the time to remove the snow and sit down. This behavior can be interpreted as meaning that the facilities are not available when it snows. People probably do not want to spend time

removing snow and the activity sitting or playing ping pong is not created for winter use.

It was noted that playgrounds tend to be sterile with little to no vegetation, removing nature from play. In winter times with snow, the dynamic in the parks change compared to spring and summer. Flat or leveled out parks have little to no activity, whereas hills and snow piles attract children and families to play.

#### EXCLUSION OF NATURE

Nature is excluded from most playgrounds in the city. At one playground that it was brought back through constructed sterile triangles that were to resemble trees.

#### AWARENESS

Seasons affect the use of outdoor facilities: snow and ice leave playgrounds, ping pong tables and benches useless. Flat parks are filled with people in the spring. In winter times they lie empty, with only a few people going through the park or walking their dogs.

#### PHONES

Investigative photo objects draw attention and sparks curiosity. During spring, it was observed that people tend to sit down with a cup of coffee, phone in hand and a companion by their side, socializing.

#### EXCLUSION OF ADULTS FROM PLAY

Adults seem to be excluded from the playground. Size excludes active participation. In winter, the play activities are mainly based in self creation with the snow. This allows the adults to participate whereas in spring, when the snow is gone, the play is moved to playgrounds that control and set boundaries for the activities to some degree. The facilities are often made for kids, the grownups do simply not fit. It was observed that the adults were standing and sitting around the play area in a big circle waiting while the kids played.

#### SEASONS

Seasons affect the use of outdoor facilities: snow leave playgrounds, ping pong tables and benches useless. Flat parks are filled with people in the spring. In winter times they lie empty, with only a few people going through the park or walking their dogs.



Figure 12: Observation in Oslo, photo by Marsteen  
Figure 13: Graphical elements by Marsteen





Figure 14: Observation at Romsås, photo by Marsteen  
 Figure 15: Graphical elements by Marsteen

### 3.2.1 Passive observations

During an interview, the participant offered to go bring us for a hike to show how the person and their family use the forest. As the interviewee had a different cultural background, it was seen as an opportunity to collect data on an unknown subject. An active observational trip was performed where the goal was to gain knowledge about how the forest could be utilized from a different perspective, what does the person bring and what is emphasized as important. It was, as in the passive observations, of interest to make notes of what the person did not do. Here again, it should be noted that as young Norwegian females, we might have biases that could influence what is and is not noted and captured in photos. Furthermore, due to unfortunate events the family of the participant could not accompany us, and the observational trip was conducted with only one person in addition to the researchers. The observations were compiled in February at 8am while accompanying the participant for a breakfast hike to a viewpoint at Romsås.

#### 3.2.2.1 Findings

Getting to know nature from an early age builds relations and relieves the feelings of fear. The participant explained that it was important to bring the children to the forest and condition them to both summer and winter activities.

The viewpoint is a lookout point close to the road at Romsås that is diligently used by the inhabitants. It was noted that people would empty their cups of beverages right where they were standing, leading the snow multicolored in brown and yellow tones.

The participant brought an extensive amount of equipment. Every item was packed in plastic and distributed on a large backpack, a cooler bag and a plastic bag (for the logs), in addition to a grill grate, chairs and charcoal (Appendix, Notater fra observasjons-tur, frokost i skogen, p. LXXVII). To go on hikes can be many different things, and it does not need to be grilled sausages over the bonfire. One can make whatever the heart desires as long as it is planned and to some degree prepared beforehand.

It was a cold morning, -17 degrees, and the participant told us that the last time the family had been outdoors eating breakfast, they had become very cold, with the reason being that they did not dress correctly. The person had since learned that one can wear a double layer of woolen underwear and acknowledged that it was not as freezing today (Appendix, Notater fra observasjons-tur, frokost i skogen, p. LXXVIII). Here one can assume that the experience was not as good the last time they were out because there was a discrepancy between the expected outcome and the actual event based on lack of knowledge. Moreover, one of the researchers also experienced cold feet during this trip. Showing how it doesn't matter how much knowledge and experience one has, it is still possible to get cold, but having the knowledge to prevent it can lower the chances of ending up with a bad experience.

As the breakfast came to an end it was discussed if we should leave the charcoal while still being hot or if we should pour water on it. There might be someone coming at a later time that could use the same fire. Lack of knowledge can be damaging for nature as the participant was only trying to be nice. It could potentially start a forest fire or hurt an unsuspecting person or animal.



### 3.3 Group interview

Since we had little information about the community culture at Romsås and people's associations towards their satellite city, except for our work in Bydel Grorud. It was a wish to put on a fresh pair of eyes and collect information without the influence of the municipality. Conducting unstructured and spontaneous group interviews on sight, was seen as an opportunity for data. The interview setting was inspired by Gaver, Dunne & Pacenti (1999) where a map with the title "if Peccioli were New York..." was presented together with stickers of different scenes such as the statue of liberty and everything in between to people injecting drugs. Whereas Gaver et al. (1999) made a probe that was to be solved without their interference we were interested to mold the method into a spontaneous group discussion. The interview situation was therefore framed to facilitate discussion and associative thinking over a map of Romsås and picture cards depicting buildings, sights, and situations from Oslo city center. The cards would ideally be in the hands of the participants so that they could decide the pacing and number of cards to be discussed. This would give the interviewees a feeling of control which again might make them more comfortable with the situation. It was hoped that the pictures would detach the inhabitants of Romsås from the place itself by discussing it more freely through the lens of "What if Romsås was the city center?".

The associative discussion cards together with the map could give information about which

areas the inhabitants are proud of, what they value and what areas they might avoid. By asking for people's associations in groups of at least two or three people, the answers might spark discussions or disagreements between the participants. Leading the group to "interview" each other without our influence. Removing ourselves from the discussion, the answers will be less focused on what they think we as interviewers want to hear and more on what they think their fellow inhabitants believe is the right association. This phenomenon is called Social proof and is described by Gulden & Moestue (2011) as the behavior where people tend to decide what the appropriate reaction to a situation is based on what the people around them are doing. Considering this, the answers from the planned association discussion, might say more about what they believe is appropriate to say within their community/culture than to think that the answers they give could be fully true.

The association cards were planned to be used during February 2021, but as the measures for combating the Covid-19 pandemic continued to elongate and the increase of social distancing, people generally walked alone. As described earlier on page 17, it was seen as an unnecessary risk to group strangers together while the virus is spreading and people clearly taking action to avoid it. The technique was therefore never tested.



Figure 16: Association cards, picture by Marsteen

# direction

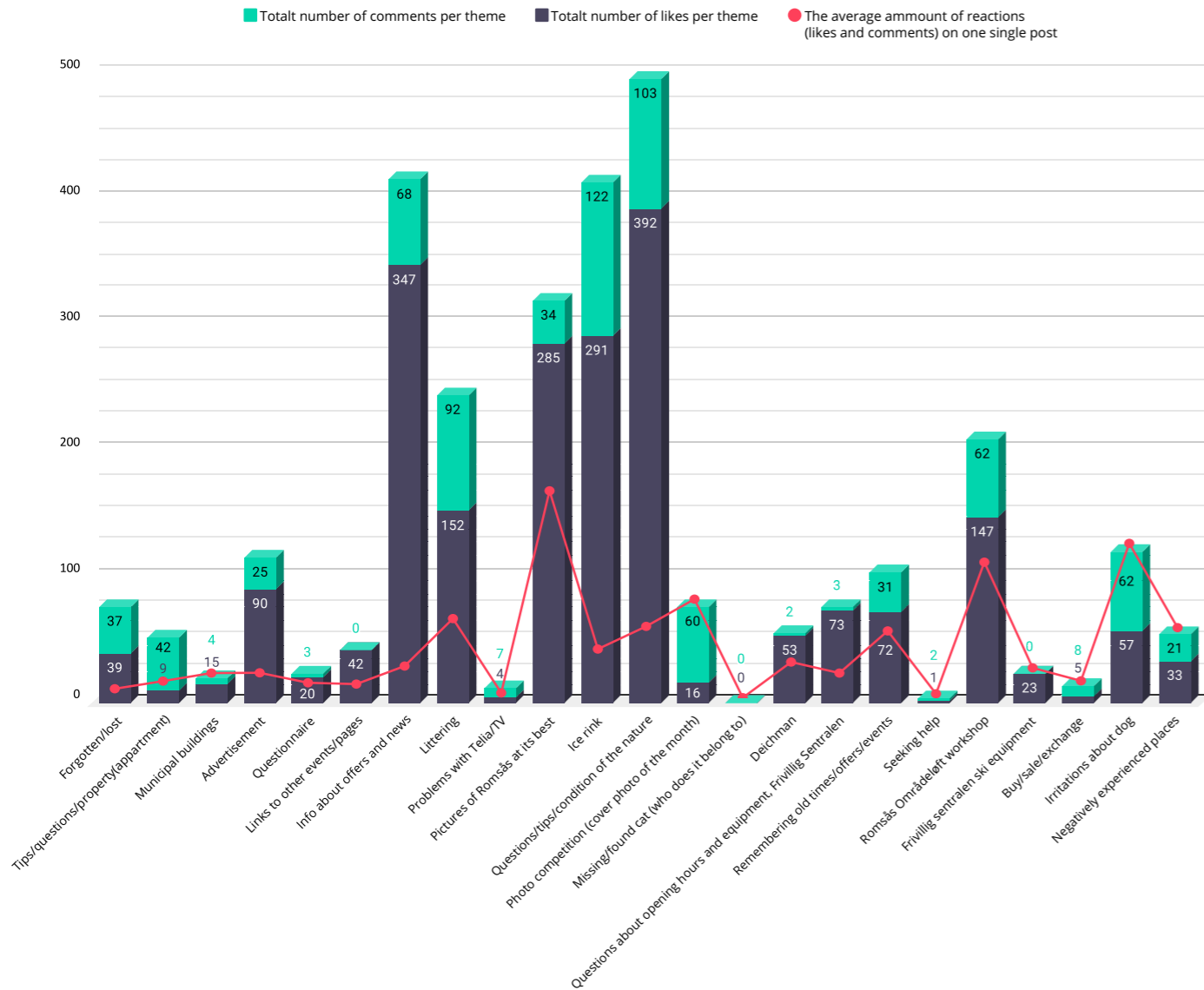
# A shift in

**From how people use  
their surroundings to  
what motivates people  
to use their outdoors**

**Searching for already existing activating offers and facilities within the population at Romsås to get a greater understanding for what is of interest and what can be of interest as well as possibilities for change.**



Hva skjer på Romsås og omegn. February 1st - March 4th 2021



Hva skjer på Romsås og omegn. July 30th - August 31st 2020

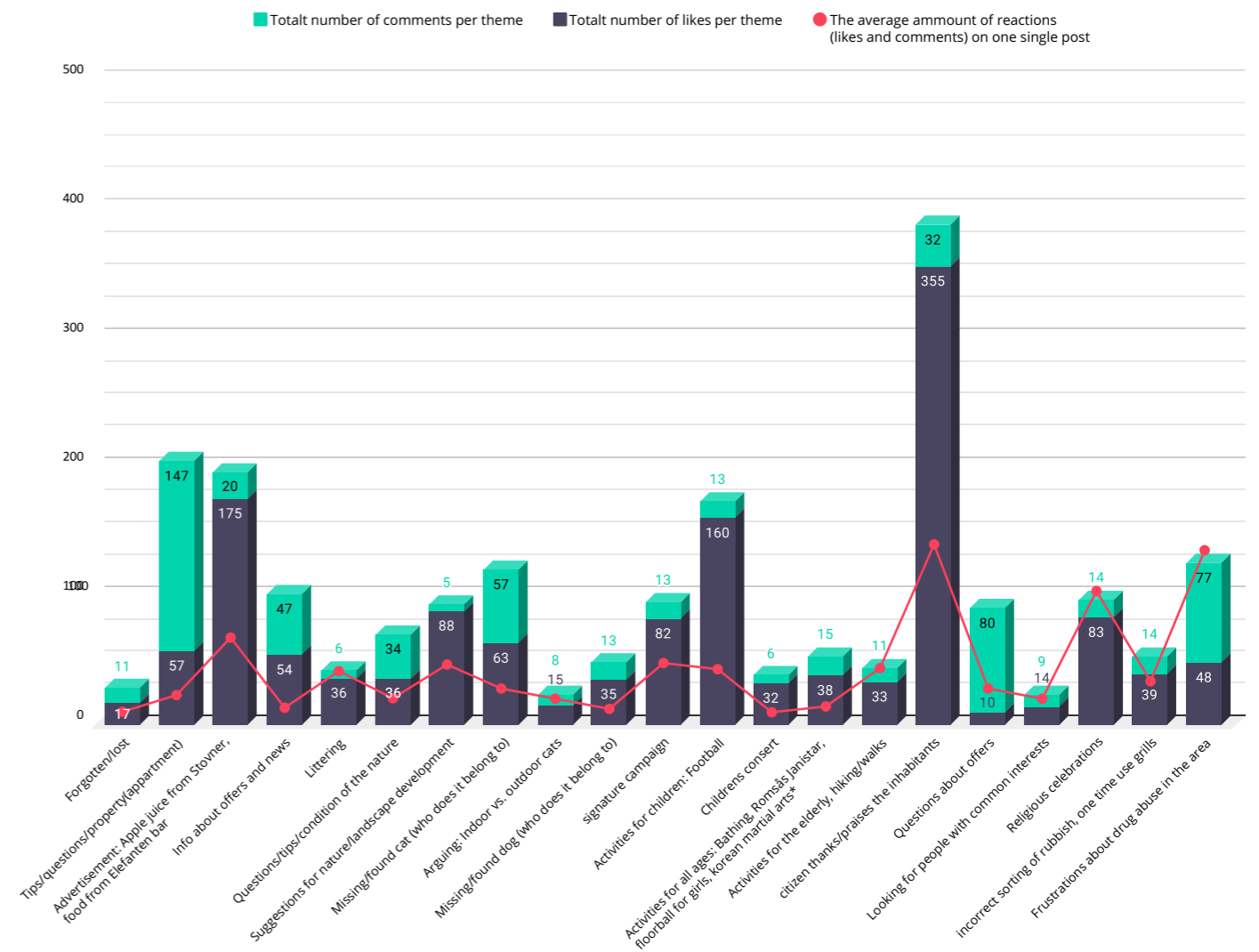


Figure 17: Graphs by Marsteen

### 3.4 Facebook workshop

Analyzing the Facebook page “Hva skjer på Romsås og omegn.” What engages the users and why does some themes create more reactions than others?

This analysis is based upon posts made by the inhabitants in and around Romsås in a closed Facebook group. Analyzing this Facebook group can give an understanding of what people are interested in, as well as curious and irritated by. To get a basis of comparison and understanding of the dynamics at different times of the year, it was chosen to look at one winter month, February 1st to March 4th, 2021 (32 days), and one summer month, July 30th to August 31st, 2020 (32 days). The study addresses the differences in activity and interests of the inhabitants at Romsås. This group

was chosen as it has a high member count of 2,2 thousand, and it is an active group with several posts published every day. The members are people associated with Romsås, such as people who have worked there, live there or are former inhabitants at Romsås.

The study will only portray the inhabitants who are a part of the Facebook group. Since all the posts are in Norwegian, it excludes non-Norwegian speaking inhabitants. By going through some of the names in the Facebook group and counting inhabitants with non-ethnic Norwegian names, 17 out of 117 bear a name of non-ethnic Norwegian origin within the sample of members in the Facebook group. This method of counting is of course based on biases regarding names and is only used to highlight a possible

disproportion regarding Romsås’ actual multicultural community. However, the probability that the group consists of a higher amount of ethnic Norwegian inhabitants can be considered present. Nevertheless, it gives an overview and has been used as a means for data collection during a time where reaching interview objects has been limited.

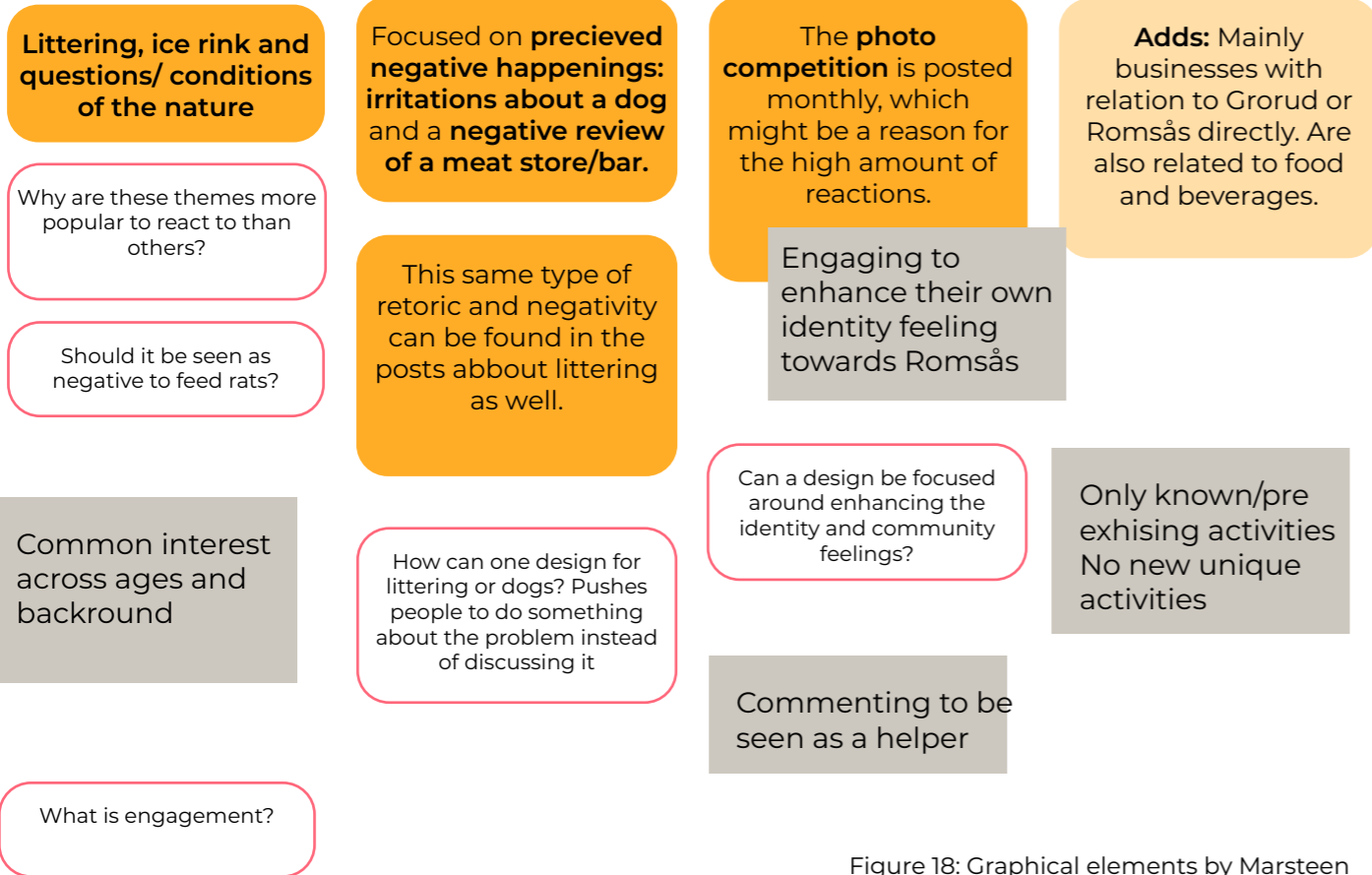


Figure 18: Graphical elements by Marsteen

### 3.4.1 Findings

Comparing the analysis of the two months indicated that the Facebook page was less active in the summer compared to the winter month. Across both seasons many of the posts seem to be rooted in receiving praise and feeling seen through acknowledgement from others. People bond over complaining about a topic while not actually discussing how to change the problem. One of these recurring problems was littering which was a common interest that stretched across ages and background.

Furthermore, there was a high engagement surrounding a monthly photo competition. Both of this can be connected to engaging to enhance their own identity feeling towards Romsås

It is speculated that the main reason for some of the engagement is to be perceived in a positive manner such as being a helper or having good values by enlightening problems.

Lastly an interesting finding is how all activities discussed evolve around only known/pre-existing activities. No new unique activities were posted or discussed such as new places to visit or advertisement for new organizations.

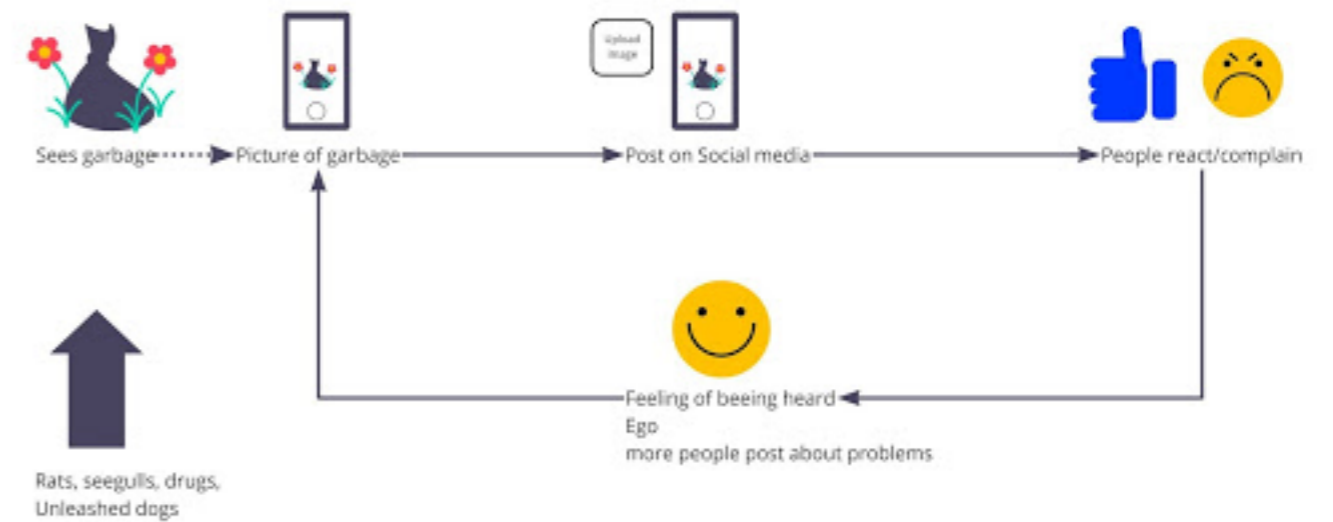


Figure 19: Graphical elements by Skirstad

#### 3.4.1.1 Analyzing findings

Many posts seem to be rooted in receiving praise and feeling seen through acknowledgement from others. Coming together to complain about a topic while not actually discussing how to change the problem or coming together to help find missing pets or post pictures of what they perceive as beautiful in their community seems to be a norm in the community culture. The feeling of community seems therefore deeply rooted in the Facebook group.

Above is an analysis of a reinforcing feedback loop seen from the point of view of a hiker discovering garbage. This was an exercise to try to look at cause and effects. One can see how this loop can apply to many observable “problems” in everyday life. This form of interaction seems to feed the problem rather than lead to a solution to the littering. Does the loop continue if the Facebook-poster does not receive praise online?

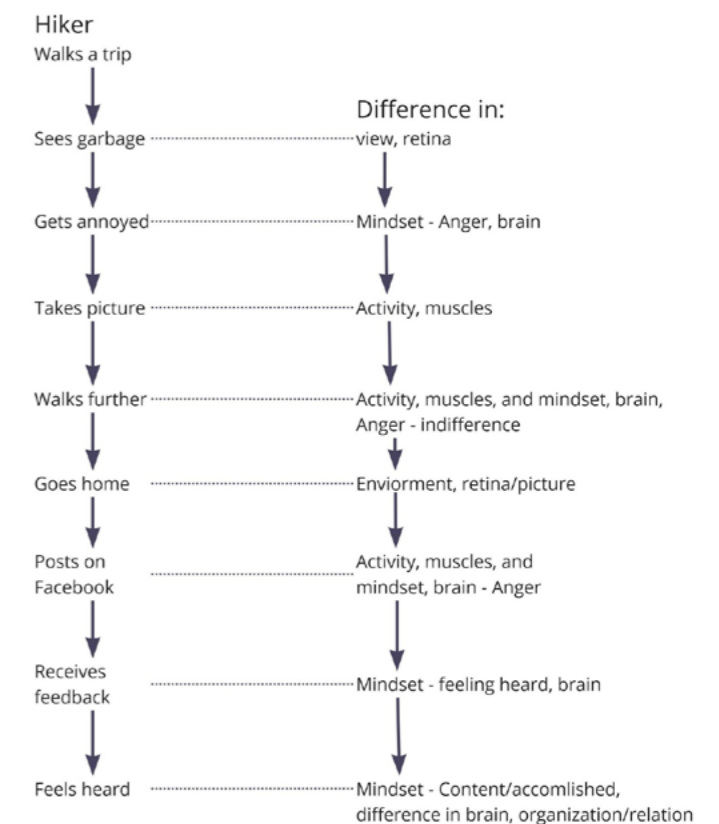


Figure 20: Graphical elements by Marsteen

To analyze the Facebook posting hiker, Batesons analysis of differences was applied, see figure 20 above (Bateson, 1972, p. 318).

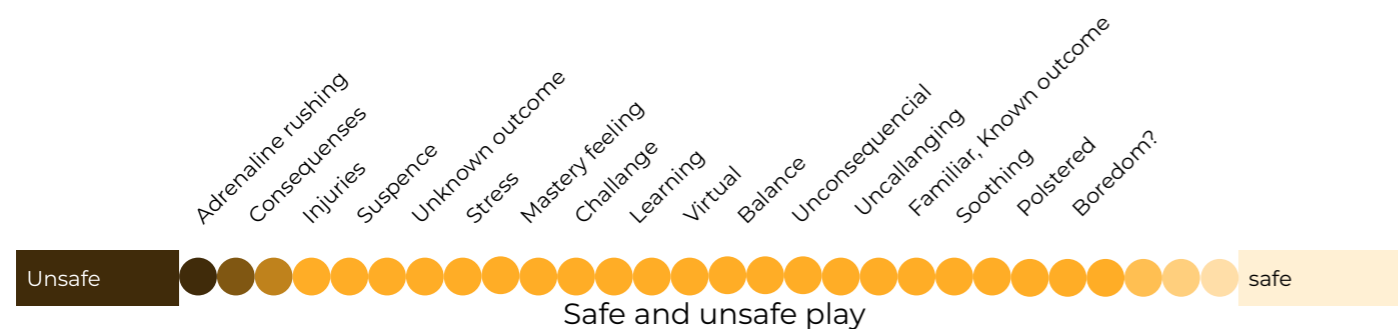
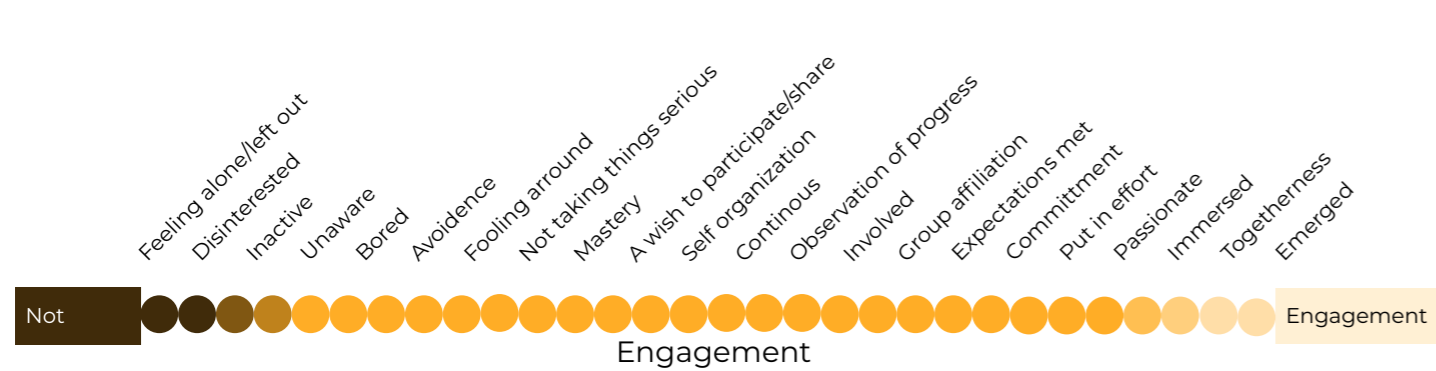


Figure 21: Graphical elements by Skirstad

### 3.5 How might we

The insight-work generated opportunities for intervention themes such as knowledge sharing (to enhance use), engagement (to get incentives to use the outdoors), play (to encourage motivation, fun and enjoyment), and social relations. Discovering solutions to problem areas was enticed through a brainstorming session, where the goal was to change our perspectives of the themes and see how they performed to get a greater understanding of problem areas. these where:

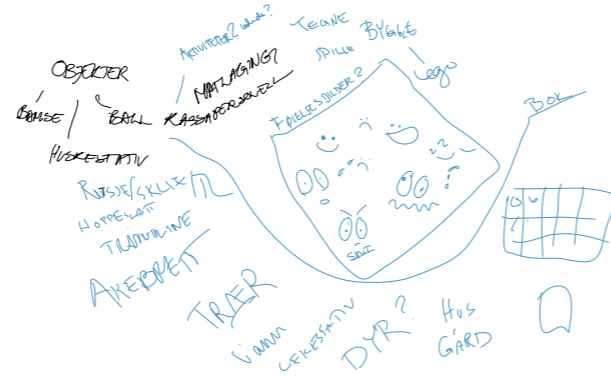
To understand the restraints that the questions embody, a negative explanation of each theme was conducted (Bateson, 1972, p. 406). The cybernetic analysis was applied to examine what each theme is not, and with this in mind the idea generation was given boundaries regarding what we should not design for. The analysis can be reviewed in the figures above ( figure 21)

- How might we design for play?
- How might we design for engagement?
- How might we design for knowledge sharing?
- How might we design for stronger social relations?

### SPØRSMÅL/TEMA TIL DISKUSJON

- HVA LIKER DU Å GJØRE NÅR DU IKKE ER I BARNEHAGEN? *Tegning*
  - HVORFOR LIKER DU ..... ?
  - KAN DU VISE MED KROPPEN HVORDAN DET FÅR DEG TIL Å FØLE? *to gitt ut de liker*
- HVOR GÅR DU FOR Å LERE UTE? *Tegning*
  - HVA GJØR DU DER? *Be skrive til barnehageansatte*
- ER DET STEDER DU IKKE GÅR/IKKE LIKER Å VÆRE? *→ Hva skal dokumenteres*
- HVA ER BEST MED BAKKE HJØLLEN? *2. mar. 2021 17:05 Snapshot 1 of 1*

### COLLAGE



- TEMA:
- HVA DE LIKER Å GJØRE, OG HVILKE INTERESSEER BARNA HAR
  - HVA SYNES DE OM SKOLEN  
BRA/DÅRLIG/SKUMMELT/SPENNENDE
- 1 MAT PAUSEN

- OBSERVER:
- ENGASJEMENT
  - FØLELSER (UTTRYKTE & DØRES TOLKNING) *ANSATTS*
  - HVILKE AKTIVITETER DE ANSATTE BARNA GJØR I LØPET AV EN UKE (DAGBOK)
- VISE FREM HVA DE HAR TEGNET FOR HVERANDRE. DISKUTERE

- PROBE:
- Mini 2 dager med tegning for deltaker (DE SOM VIL TEGNE)
  - Fortelle + tegne det de gjorde i går
  - Tegn følelsen aktiviteten ga *•••*

Figure 22: Graphical elements from brainstorming and planning by Marteen & Skirstad

## 3.6 Desing probing

Tiurleiken kindergarten at Romsås was suggested, by the contact person from Oslo municipality, as a possible resource. In this probe three cohorts participated where the children ranged between the ages of 3-6 years old. The cohorts varied in size from day to day because of the Covid-19 pandemic, resulting in one cohort having four children participating the first day, and seven on the last day. Another cohort consisted only of two children during the entirety of the probe, however, it is unknown how many children participated in the last cohort.

The initial idea was to hold a physical workshop where we, as researchers, could observe while the pedagogues and kids produced data. Given the Covid-19 pandemic restrictions, the workshop was shifted to a probe to limit contact with the kindergarten while they were still generating material.

Finding out what the preschoolers at Romsås are interested in, what activities they do outdoors and what they consider scary from their perspective, has the potential to accumulate insights and understandings of how one can create experiences with the outdoors from their point of view. Maria Papandreou's (2013) article on the topic of communication with children through

drawing was used as a basis for the probe's setup. The data collection was framed with a short story and a problem that the kids were encouraged to solve through drawing and explanation. As Papandreou (2013) used the method to investigate how children create meaning-making of math questions through drawing, we were on the other hand interested in the child's thoughts on a specific topic. Considering the difference in theme, it would be exciting to gain knowledge about how kids respond to our narrative and is it possible to obtain information from preschoolers that generates applicable material?

Participation was emphasized to be voluntary for the children. Furthermore, to ensure the kids' privacy and GDPR was protected, the "Information and statement of consent" form was distributed by the leader of the kindergarten to the kindergarten pedagogues and the guardians of the children (Appendix, Vil du delta i forskningsprosjektet, p. LXX-LXXII). The caregiver would respond directly to the Kindergarten. Data collected in this probe was not sensitive in nature and the children could choose themselves whether they wanted to participate or not. It was therefore seen as sufficient to give the kindergarten this responsibility.

### 3.6.1 Designing the probe

The material was designed with the intent of being on point, easy to understand and visual. The probe kit contained a guide for the kindergarten pedagogues accompanied with two short stories that were to be told over the span of three days. The first story introduced the theme and was said to be told before the drawing session of day one and two, relating to the question "what did you do yesterday". The second story was more abstract to investigate how far one could push the children's imagination, drawing Bluppi's planet and what activities they could do there. Printable templates were designed and illustrated to nudge the children to draw within the dedicated space while simultaneously seeing the narrative visually. (see picture...) The guide contained illustrations as well as instruction for what was required of documentation from the pedagogues, in addition to the stories. The documentation was to be done in writing where the pedagogues would describe and write down what the kids spoke about. Furthermore, discussions over the phone with the kindergarten leader was conducted to avoid any confusion about the material. The stories told was as follows:

#### Day 1 and 2:

"Bluppi er helt ny på Romsås. Han kommer fra en annen planet og kom faktisk flyvende i natt på en flyvende tallerken! Bluppi landet midt i skogen på Romsås sammen med familien sin, og siden han kommer fra en annen planet, vet han ingenting om hvordan man har det gøy på Romsås. Han lurer veldig på hva som er gøy, skummelt og kanskje litt spennende å gjøre på denne planeten. Bluppi er ikke veldig god i norsk, men han er flink til å forstå tegninger. Kan du hjelpe Bluppi?"

#### Day 3:

"Bluppi er veldig glad for din hjelp! Han har hatt det kjempegøy med å prøve ut alle dine forslag. Som takk tar han deg med til sin egen planet! Når du kommer tilbake igjen til jorda har du opplevd masse spennende og alle vennene dine er nysgjerrige på hva du har gjort! Det er vanskelig å beskrive det med ord så du bestemmer deg for å tegne det du så og opplevde på Bluppis planet."

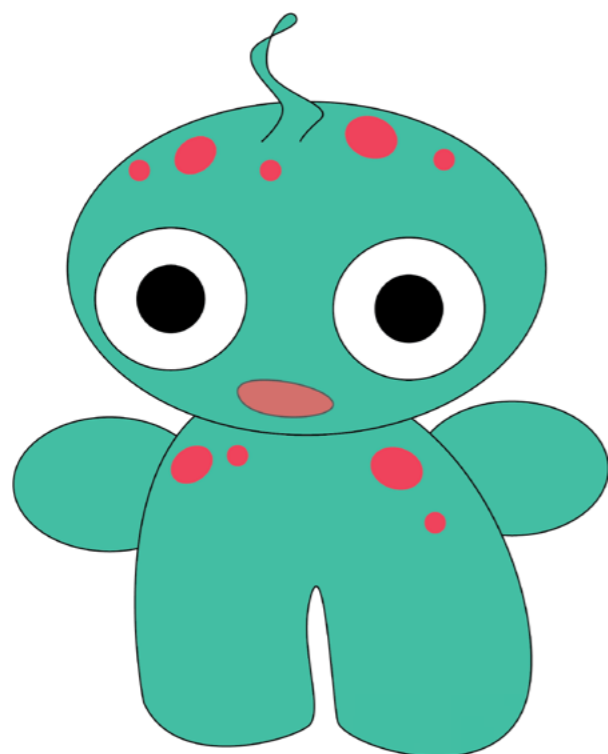


Figure 23: Graphical elements by Skirstad

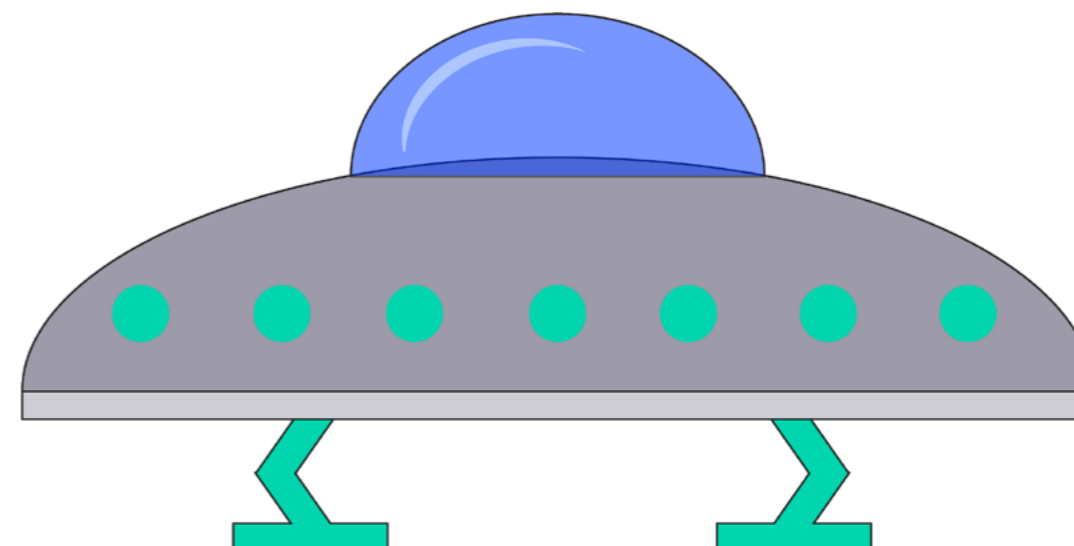


Figure 24: Graphical elements by Skirstad

Pietschmann et al. (2014, p. 2269) defines that children under the age of 4, lack the mental capability to comprehend complicated narratives as they cannot build multiple mental models at the same time. To keep the children's attention, the narratives were therefore short and concise, and focusing on a singular character. Retaining the story to the immediate environment of the children's whereabouts keeps the references within the knowledge span of what children aged 2-7 can comprehend. Young children do not have the world knowledge to understand references linked to themes outside their own bubble (Pietschmann et al., 2014, p. 2273). Pietschmann et al.'s statement correlates with findings from the children's walk (barnetråkk) and Sundevall & Jansson's research, where it is emphasized that children mostly retain themselves to their

immediate environment (Oslo kommune, 2016a; Sundevall & Jansson's, 2020). Narrating within Romsås' location, would give them the opportunity to explore and experience the story through their imagination and known places.

Bluppi is designed to look childish with a small body and big head, big round eyes, and a questioning expression. The big eyes and mouth facilitate nonverbal communication that might be understood by the children and play on their empathy to encourage help (Pietschmann et al., 2014, p. 2272). The character was kept abstract with a clear color scheme, and a simple yet recognizable shape with repeating ovals. This facilitates familiarity and recognizability for the children (Pietschmann et al., 2014, p. 2271).

### 3.6.2 Execution of the probe

Retrieval of the data collected by the pedagogues was conducted over a Teams-call. The pedagogues scanned and e-mailed the drawings back to us. The goal of the meeting was to get insight on the pedagogue's findings and how they used the given material. The pedagogues expressed their experiences, observation, and the material generated during the probe in the video call (Appendix, Transkribering Interview 25/03 - Probe, p. LIII).

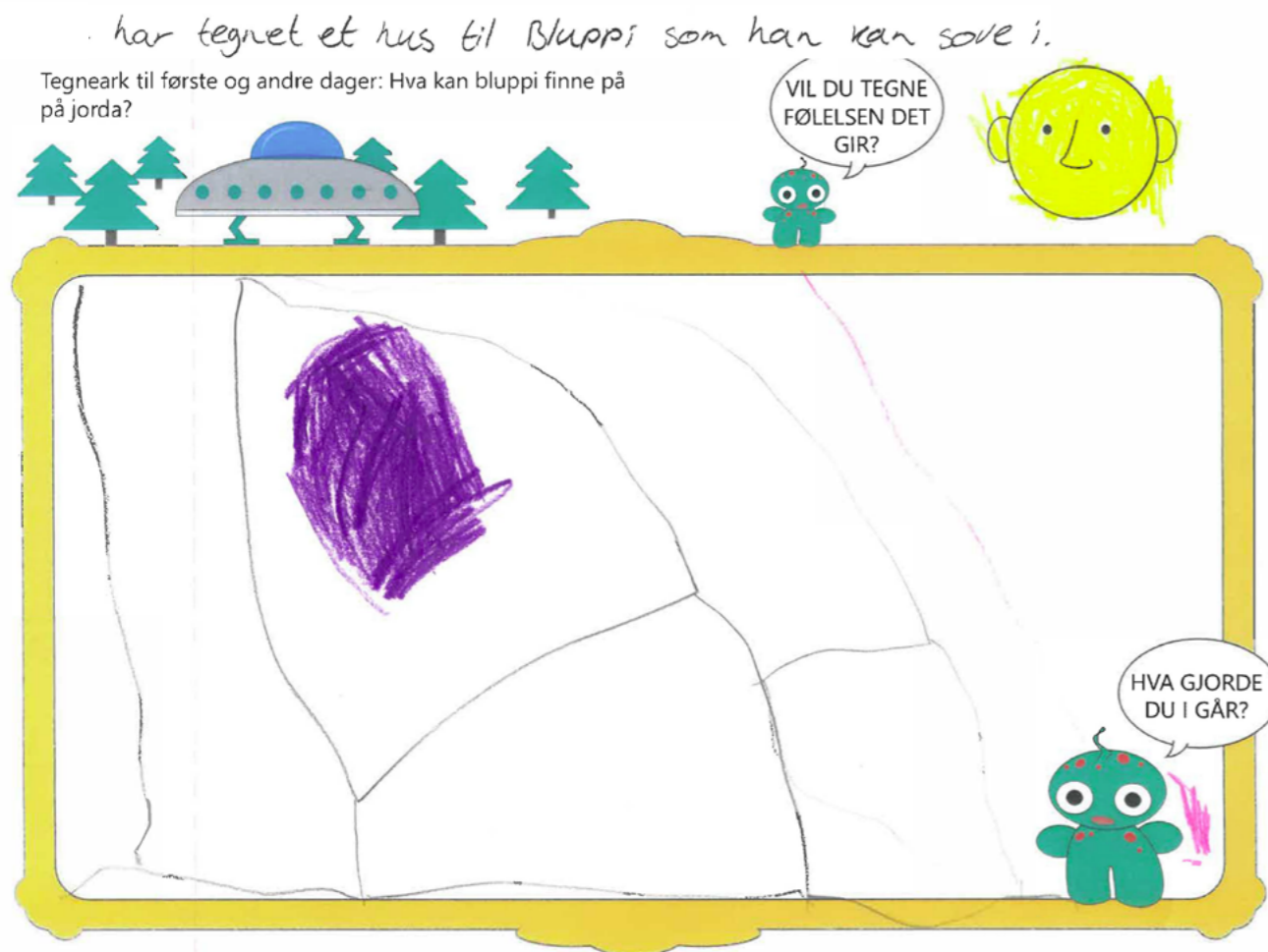


Figure 25: Scans from Tiurleiken kindergarten

### 3.6.3 Findings

The probe indicated how children can engage in participation with the narrative of a story as long as the conditions are correctly facilitated. This includes being present in the familiar environment, stating a short, clear, and simple task in addition to having a facilitator that listens while the kids perform and explain their assignment.

The kindergarten pedagogues took the material and modified it to fit their needs. Where we had only thought of nudging the children through the drawing template, the pedagogues created physical handheld story tokens to help engage the children and bring Bluppi to life. A story token is described by Pietschmann et al. (2014, p. 2275) as a physical object that directs the child's imaginative play. One of the pedagogues cut out two eyes and glued them to a frisbee. «Then we got passionate about the story» (Appendix, Transkribering Interview 25/03 - Probe, P. LIII). Another explained that she scaled up the illustration of Bluppi and the UFO and printed it out to give the children something to hold while talking (Appendix, Transkribering Interview 25/03 - Probe, p. LIV). Thus, manifesting the character in real life.

All the pedagogues mentioned how their children were framed by their surroundings and activities that they were doing in the kindergarten. This is also visible in the drawn material: The kids who went to a playground drew, amongst other things, a specific slide multiple times (see figure .....). Furthermore, it was expressed that the children possessed an overview regarding what playgrounds exist in the area, what type of facilities they have and what they like to do there (Appendix, Transkribering Interview 25/03 - Probe, p. LIII).

During the post-probe meeting, the pedagogues explained their reasoning behind why they wanted to participate: They saw it as an opportunity to gain new knowledge themselves as well as involving the children to a high degree in the probe workshop session (Appendix, Transkribering Interview 25/03 - Probe, p. LVIII). The discussions revealed that it came as a surprise for the pedagogues how well the children understood the assignment and how they managed to draw and explain their experiences, even at three years old. (Appendix, Transkribering Interview 25/03 - Probe, p. LIII). It was mentioned how inspiring



Figure 26: Scans from Tiurleiken kindergarten

the kids to draw was both fun and engaging for themselves. While being in the forest the children discussed how they could make sure that Bluppi would not be afraid of the woods, and came to the agreement that if Bluppi was with them, he did not need to be afraid of the forest because they knew the woods (Appendix, Transkribering Interview 25/03 - Probe, p. LV)

Furthermore, the pedagogues explained how they entice the children to walk further on hikes by searching for animal tracks and droppings in addition to a fictional character called Lurvelegg. (Appendix, Transkribering Interview 25/03 - Probe, p. LV). In continuation they explained that there still were parts of Bluppi present in the kindergarten after the probe had ended. The children still mentioned Bluppi. In one cohort the children started searching for Bluppi during their forest hike, wondering how big he was. (Appendix, Transkribering Interview 25/03 - Probe, p. LV) Another pedagogue mentioned how a boy got very concerned since they had left Bluppi,

in the shape of a frisbee, outdoors during the weekend (Appendix, Transkribering Interview 25/03 - Probe, p. LVI). Lastly, some of the kids found it scary and hard to draw what they had done together with Bluppi on his home planet as they did not know anything about it. (Appendix, Transkribering Interview 25/03 - Probe, p. LV).

In the material we received back it was clear that we as designers had not facilitated the task appropriately for the pedagogues to collect data in the same way. One had written a few sentences describing the content of each drawing, another had written only the names of each depicted object and the third had written nothing at all. It was not possible to extract data from the drawings themselves without the context of knowing what the kids had said while they drew. The information is not in the finished drawing but in the communication that the drawing elicits during its creation.

### 3.6.4 Discussion

To analyze the material from the probe, user journeys were visualized from the children's, pedagogues, and designer's perspective (Appendix, User journeys from probe p. XCI). Comparing the data from the different points of view elicited opportunities to discover delays, bottlenecks, and opportunities for improvement within the different steps.

Facilitating for collection of data such as detailed observations and explanations should be designed with templates for this purpose. It was expressed in the guide that this information should be collected, but it was not further designed into the drawing templates. Making a designated space where the pedagogues could write their findings could have enhanced the information-gathering. Potentially, this could have given us as researchers a richer data set.

Simple gives room for interpretation and creative expression for visualizing and manifesting Bluppi in real life, as the pedagogues did through paper cutouts and gluing eyes to a frisbee. Keeping this in mind, future probes should nudge and leave room for the facilitator to engage in self creation. Self-creation can spark motivation, engagement, and affiliation to the character for the pedagogues while they engage the children. The simple probe kit containing illustrations and the story of Bluppi had a level of extractability, where the kindergarteners took elements of the narrative and brought it into the children's world (Jenkins, 2009b). Manifesting Bluppi as a toy can help the children to express their knowledge and views of Bluppi's world through play (Pietschmann et al., 2014, p. 2276)

#### FEAR OF THE UNKNOWN

Getting the children to draw what they could do at Bluppi's planet was designed to give the assignment an additional level of information regarding activities that the children like to do that were not restricted to the frames of Romsås. In addition, the task was taught to give the children an opportunity to push their imagination. This

proved to be a challenge for some of the children as it caused uncertainties, as one of the pedagogues explained: they did not know what was there, and what it looked like (Appendix, Transkribering Interview 25/03 - Probe, P. LV). This pushed the pedagogues to become creative in how to activate them, googling pictures, showing YouTube videos, and drawing some themselves. The task might have been at a too high level of difficulty, which can be a demotivating factor. This corresponds with Pietschmann et al. (2014) who explains in the stages of cognitive development table that abstract and hypothetical thinking is not present in a child's mind before the age of 12+.

#### ONE TO ONE MEETING

In a probe where the researchers are not present to record the happenings, we recommended to hold a one-to-one meeting after the probe workshop to get a deeper understanding of how and what went down during the session.

Do also note that a probe with children might not give a hundred percent accurate picture of how the children perceived the probe, as their experience will be told through the facilitator. But as one of the kindergarten pedagogues put it: «We did not think the children... for example that three-year-old's could come up with suggestions and drawings, but they managed” and “I was very impressed over how, even though they did not say much there where so much imagination and the imagination did a lot of things” (Appendix, Transkribering Interview 25/03 - Probe, P. LIII)

#### MAKING OFF YOUR OWN EXPERIENCE

It should be highlighted that the probe was executed under extraordinary circumstances given the Covid-19 pandemic. Therefore, the kindergarten had small cohorts with the smallest group consisting of 2 children. A bigger group of children could have altered the experience and made it harder for the pedagogues to keep the kids attention. Most children under the age of 4 have little



Figure 27: Photo of user journey, Marsteen

patience, lasting mostly an hour at the time (Pietschmann et al., 2014, p. 2273). The children should therefore only be exposed to shorter sessions in small groups to keep their attention.

#### FURTHER DEVELOPMENT OF THE STORY

Bluppi can be linked to ongoing problems in the area at Romsås, such as littering and as Pietschmann et al. describes, on can include world problems as means to engage children and create a starting point for discussion and the understanding issues in question

(Pietschmann et al., 2014, p. 2273). For instance, Bluppi is getting tangled in litter to show that garbage can be dangerous when not disposed of properly, linking the problem to something familiar and understandable for children. Furthermore, Bluppi's appearance opens for additional levels of nonverbal expression that can be used as a tool to give out different information to the children, as the visual personality traits of a toy is internalized as "Play scripts" for the children (Pietschmann et al., 2014, p.2275).

# 04 Design process

**This chapter describes how the findings have been utilized to produce concepts through ideation.**



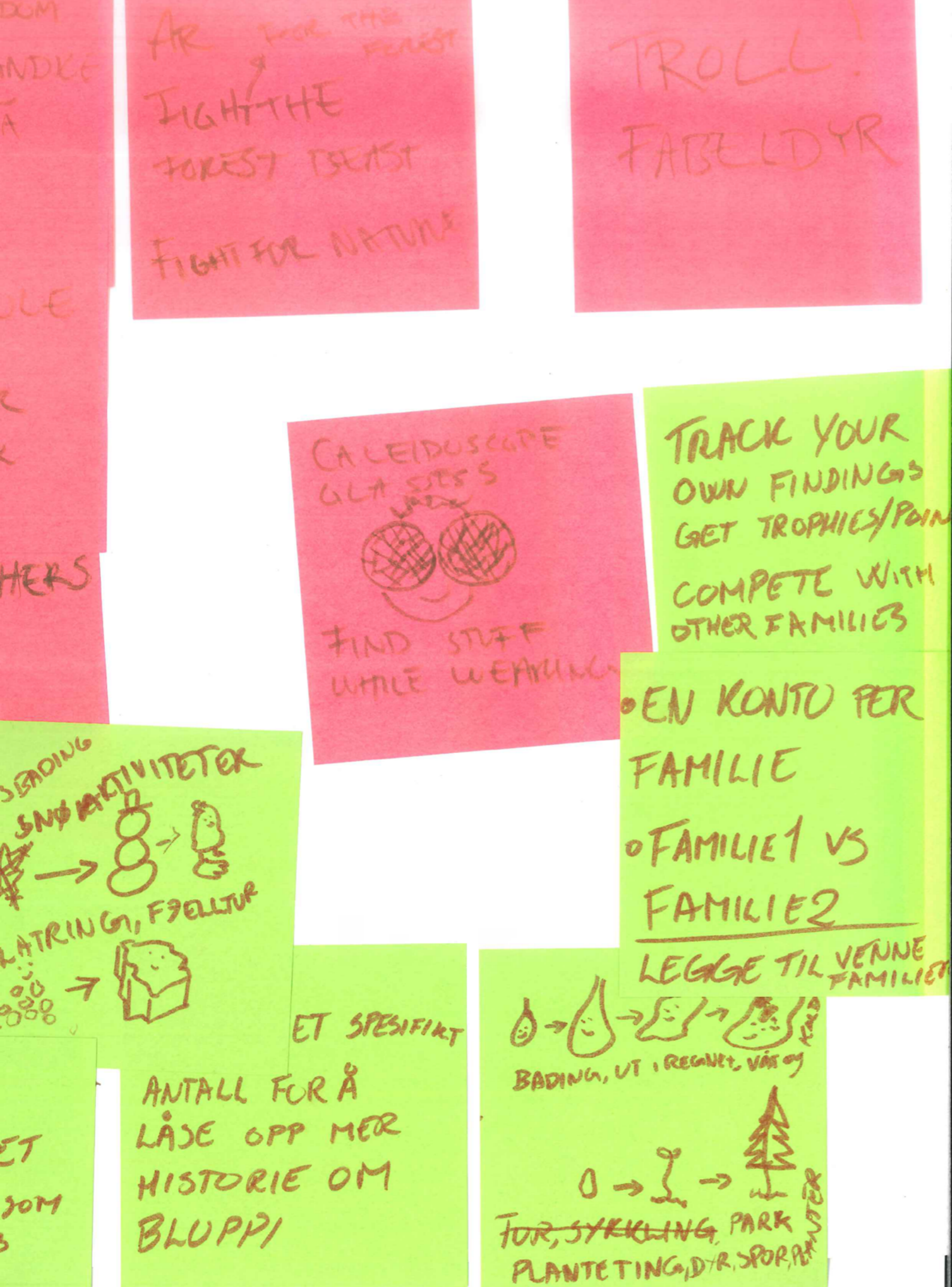


Figure 28: Scans from ideation session, Skirstad & Marsteen

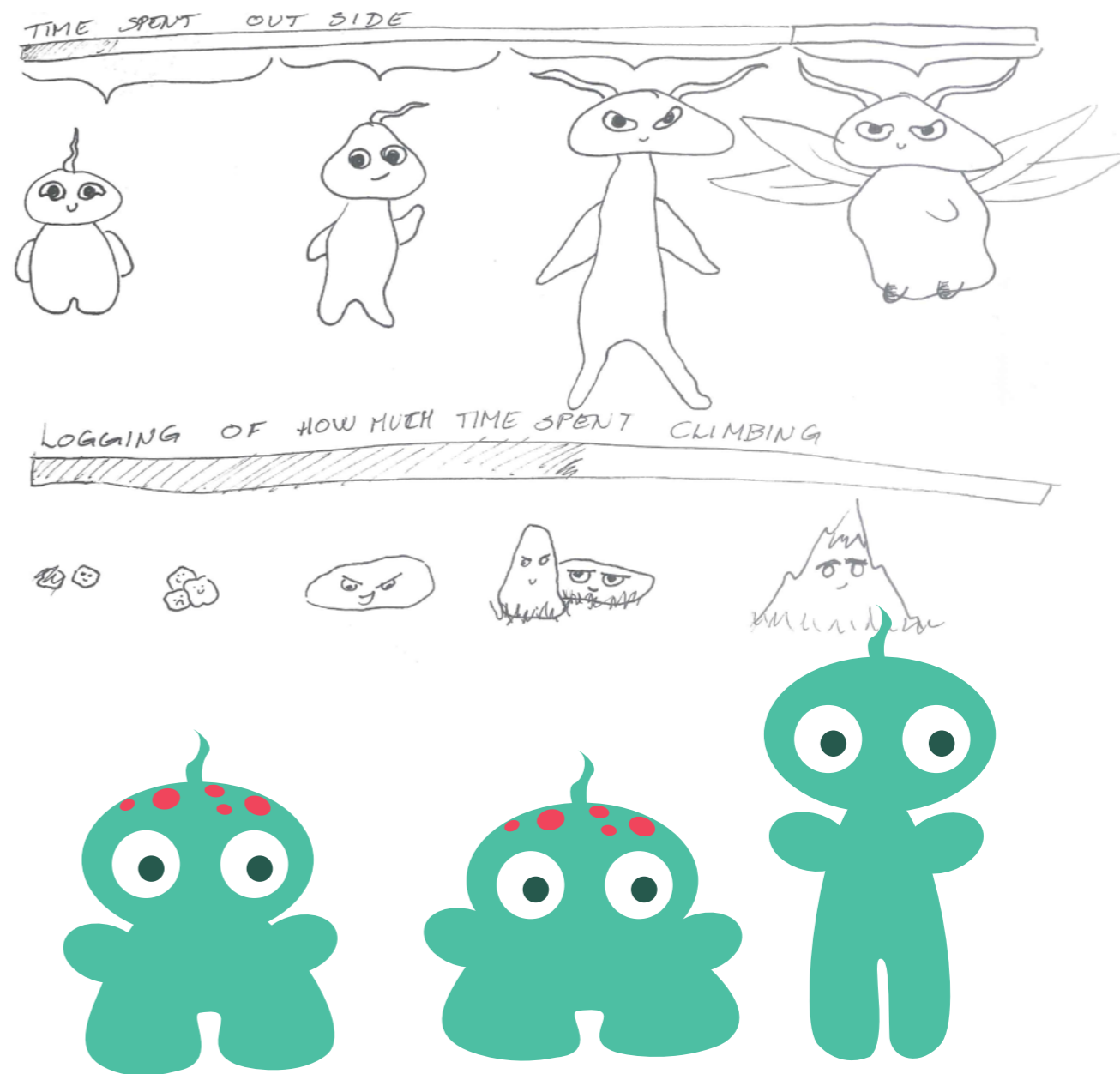


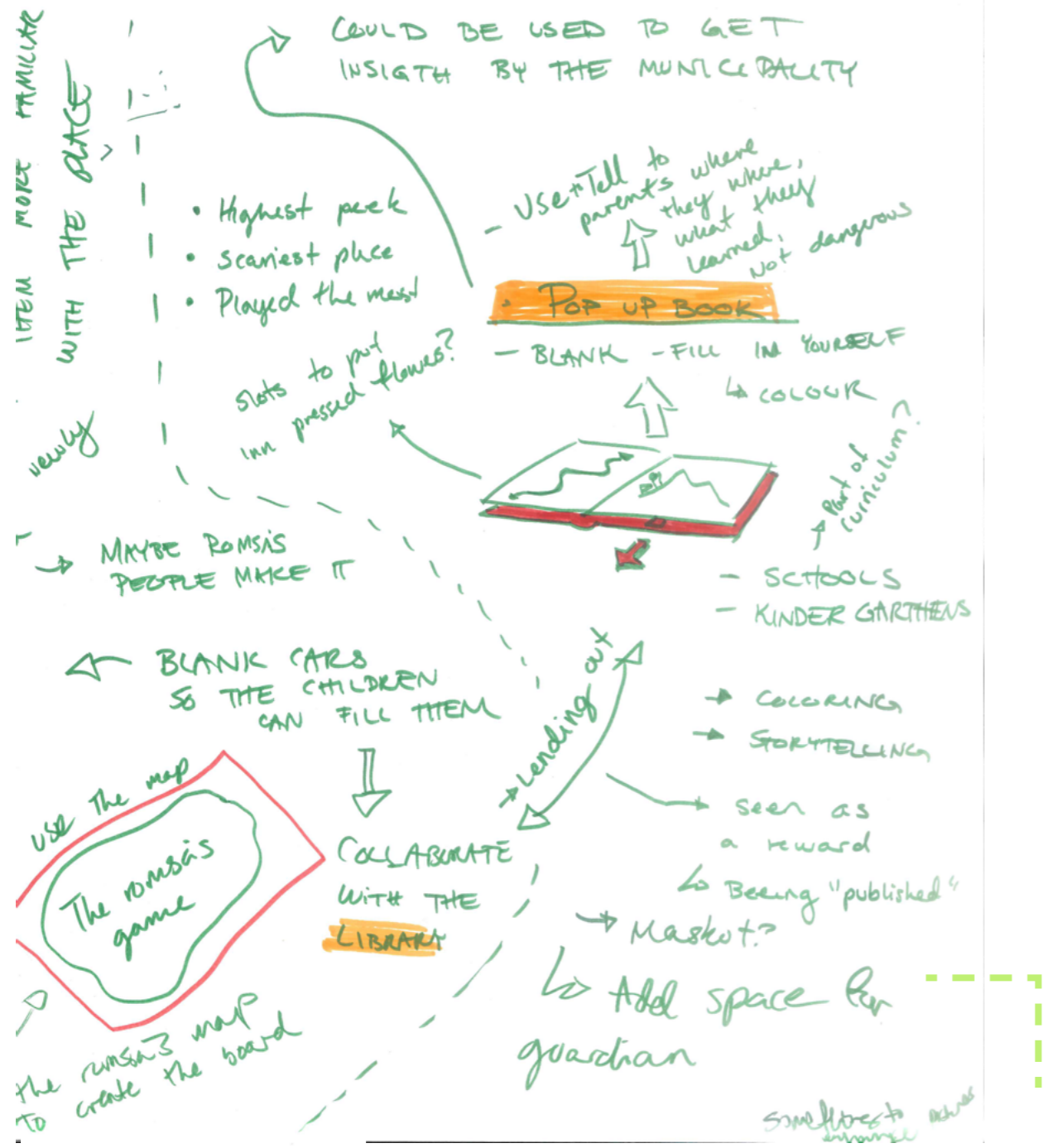
Figure 29: Sketch by Marsteen  
Figure 30: Graphical elements, Skirstad

#### 4. Ideation

As the feedback and findings from the probe with the kindergarten turned out to be rather fruitful, it was decided to conduct the ideation focusing on transmedia storytelling. In the ideation phase it was explored what additional characters would look like to give the narrative more subjectivity by focusing on other perspectives and give opportunity for drillability into subplots. The name snurretutt was given to the species, describing the antenna that springs out of the characters head as an exploration of what other snurretutts could look like showed how the emphasis and recognisability lies in the antenna on the head. Through the character exploration an idea for collection arose, could the characters be collectables or could other means be used to collect knowledge?

In order to be more relatable to all children the Bluppi characters pronouns were changed from he, to their. As the appearance of Bluppi is androgyny it is up to the children themselves to interpret the character. Furthermore the appearance has been altered to give the character more personality with eyelids and chubby cheeks that enhances the expressions. The hard outline was removed and Bluppi's helpless expression subsided.

Additionally ideas for how the character could be used as a way to mark pathways in the physical local area where explored. Bluppi could lead to specific places such as climbing walls or flower patches.



Exploration of engagement using collaboration and manipulation as methods. Pop up books could create engagement as the children has to actively participate in the reading process and it encourage exploration.

A series of book with different target groups could spread the story to multiple users

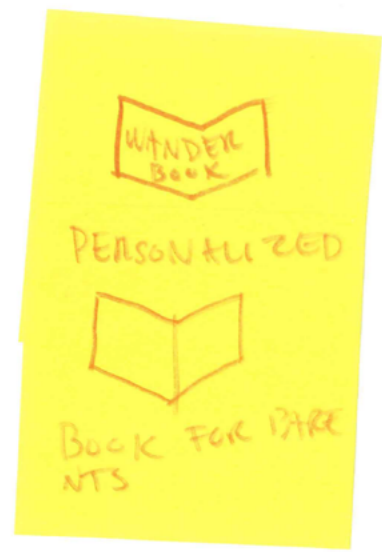


Figure 33: Sketches by Marsteen and Skirstad

Bring Bluppi and his family to life using AR to create immersion was explored. From here an idea for creating an App game arose to further spread the narrative across platforms

Extrable features could help bring the story to life. Garbage bags for garbage picking, connect Bluppi to a caouse?

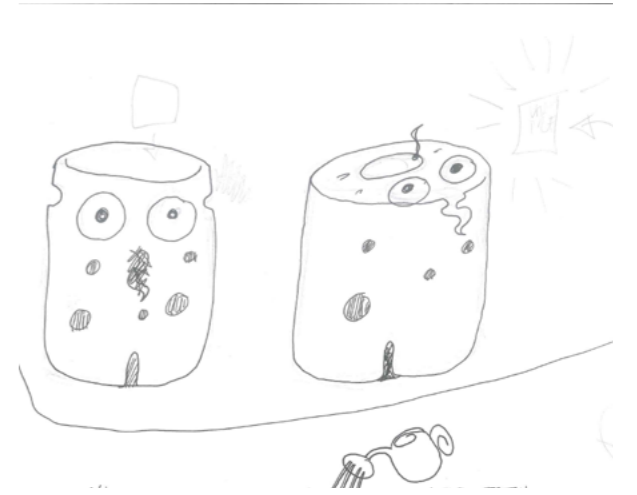


Figure 34 and 35: Sketches by Marsteen and Skirstad

Figure 31: sketches by Marsteen  
Figure 32: Sketches by Skirstad

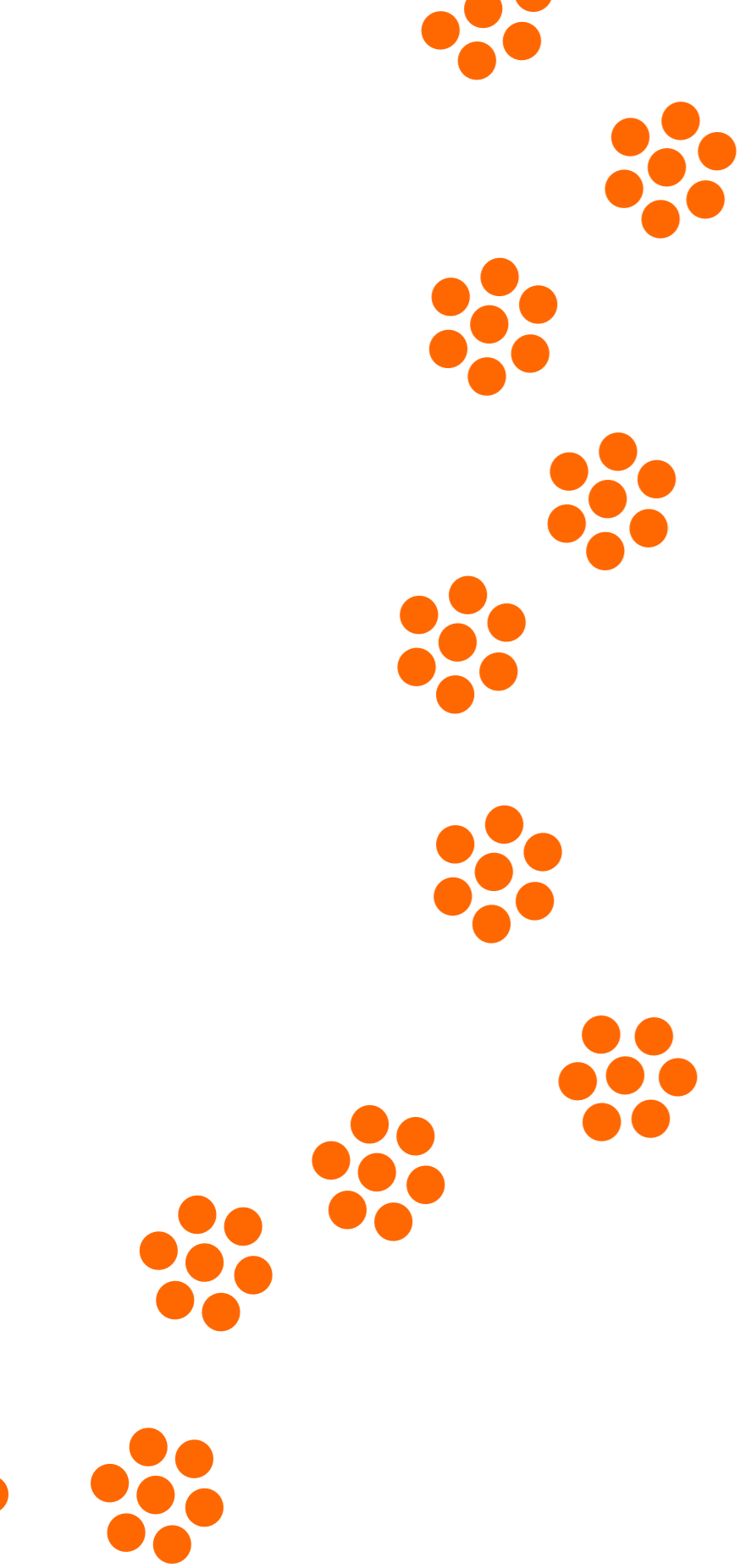
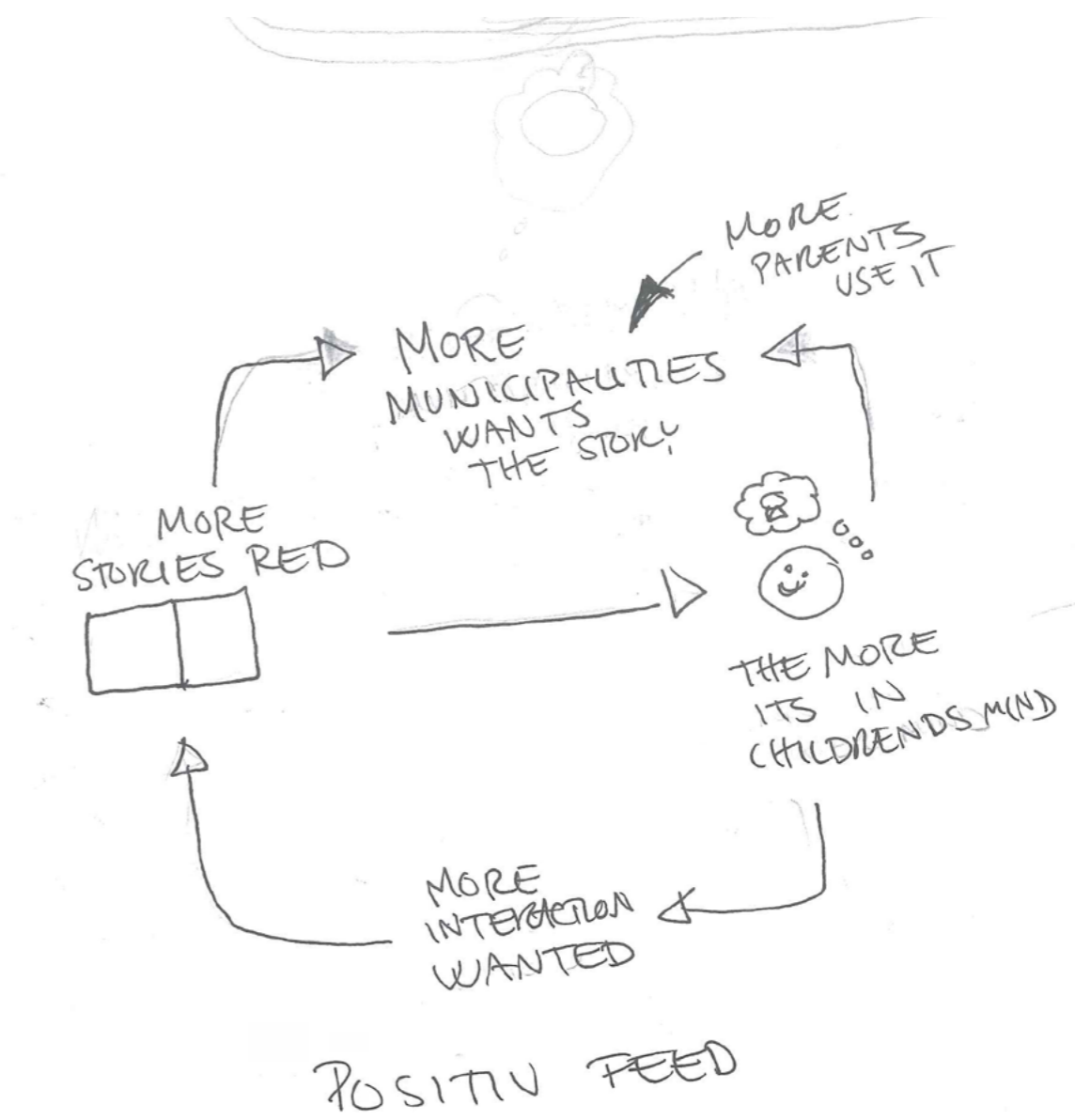


Figure 36: Graphical elements by Marsteen and Skirstad



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Figure 37: Sketches by Marsteen and Skirstad

### 5.1.1 Who is Bluppi?

The ideas were tested by drawing up the feedback loops created by the concept.

The picture above shows how a book could create engagement within the community

# Design proposal

## 05

**The story  
Journey?  
Analysis  
Reflection and con-  
clusion  
Further work**



Figure 38: Rendering by Jonas Kathan



Figure 39: Graphical elements by Skirstad & Marsteen

## 5.1 Design proposal

Bluppi Reiser is a design proposal that utilizes transmedia storytelling to inform and engage with children and their guardians to entice activity in the local outdoor environment through play. The concept spreads across pedagogic books, a game app and web page in addition to markings of paths with Bluppi's footprints. It blurs the line between the real world and imagination. Tempting consumers to move around and discover new areas in their local outdoor environment.

The use of transmedia storytelling gives a greater range of enjoyment possibilities for the users. Young children might not

comprehend the complexity of the narrative, but they will still be able to enjoy the parts that are specifically designed for them through simple character and narrative designs (Pietschmann, et al., 2014, p. 2270). The guardians can enjoy the more complex narration behind the story and gain motivation for use through inspiring their kids.

### 5.1.1 Who is Bluppi?

Bluppi is an alien who needs help on this unfamiliar planet called earth. The alien is designed to express confusion and need for help through facial expression and body language. As Bluppi is an alien, the character is by fault a vulnerable outsider playing on people's empathy to create engagement.

Bluppi is designed with a simple shape and clear color blocks making the character easily recognizable and thus the character is suitable for children (Pietschmann et al., 2014, p.2272). Bluppi's shape mainly consists of ovals, a U-shaped body with a characteristic antenna. The color is a clear blue-green shade

to make Bluppi pop out against colours in nature while still maintaining a green shade often associated with aliens. Bluppi's spots are orange/yellow to contrast the blue and drawing association to the orange footprints that can be found outdoors.

The ovals and characteristic U-shaped body differentiate Bluppi from the other snurretutts (see illustrations of the app) making Bluppi easily identifiable amongst the rest of the snuretutt characters. Furthermore, Bluppi is not conformed to any gender, leaving it up to the users to decide its gender(s).



Figure 40: Graphical elements by Skirstad & Marsteen

### 4.1.2 Narrative

The narrative/starting point: Bluppi and the snuretutt family leave their polluted planet in their spaceship. As they get near a planet (earth) they get major problems and are about to crash. To save Bluppi, mapi and bapi (the parents) put their child in the only working ejection seat they have. Bluppi sees the ship crash land as the alien slowly drifts to the ground.

Bluppi is now all alone on an unfamiliar planet and needs the kids' help to find Mapi og Bapi, learn about the flora and how to survive here.

As Bluppi is an abstract figure, it is a starting point that has potential to introduce new topics in relation to events such as the litter picking day "rusken", discussion of hard feelings or cultural differences. Children and adults help the alien Bluppi understand us through facilitation of imagination, thus the participants can add and create more content to bring their personalized Bluppi to life.

### 4.1.3 Markings of places

Bluppi's footprints unifies the concept connecting the components around a common physical guidance tool that can be recognized in the outdoor areas. The idea is based on the marking system by DNT, The Norwegian tourist association, who marks pathways in the Norwegian mountains, forests and coastlines (DNT, n.d.)

The Bluppi- path markings differentiates as they are used for local paths and tours in the neighborhood and/or local forests. The color of the marking is a bright orange hue, to differentiate them from the existing marking for hiking paths. Horizontal blue and red lines.

Where the Bluppi paths should go can be decided through participation with the local kindergartens and schools. They use the local outdoor environments and can possess knowledge about popular paths and destinations.



Figure 41: photo by Skirstad & Marsteen



Figure 42: Graphical elements by Skirstad & Marsteen

#### 4.1.4 App

As explained by Pietschmann, et al., (2014, p. 2227) explain, video games allow the player to explore the world through the narrative. Through this experience the player gets immersed and the lines between fiction and reality gets blurred.

In the app the players get introduced to their own snuretutt, with familiarity and affiliation to Bluppi through the color palette, antenna and spots. The avatar can be personalized to give the player affiliation towards the game, and the player can explore the world through a different version of themselves (Alsawaier, 2017, p.66-68). The avatar also gives a

backstory into how snuretutts are born as the player has to plant and grow their snuretutt before being able to play with it thus adding a level of anticipation that can strengthen the attachment to the character.

The app is designed to be used by children down to the age of 5 with their parents as operators/facilitators. From the age of 7, the child will be able to comprehend the narrative within the game on their own (Pietschmann, et al., 2014, p. 2274). Furthermore, at this age the child will be able to understand their own influence on the narrative (Pietschmann, et al., 2014, p. 2267).

When the child turns 9 there is a shift in the theme to create a more engaging look to meet the age group. The characters and world have a darker tone to give older players a narrative they can explore and relate to at a deeper level, where side characters can get a broader story line. As the child enters this age its cognitive abilities have developed to the point where the child can start seeking out different content based on aesthetical reactions as well as having a higher critical reflection ability (Pietschmann, et al., 2014, p. 2267).

The app is designed to be enjoyed with others either through the player walking with their guardians or through meeting up with friends to play minigames or perform challenges together. The games and challenges facilitate cooperation which can strengthen learning and interaction and activate the users critical thinking (Alsawaier, 2017, p.66-68). Through the scanning system the user can earn badges, a tool which visualizes the users accomplishments to potentially elicit pride and motivation (Alsawaier, 2017, p.66-68).



Figure 43: photo by Skirstad & Marsteen

## 4.1.5 Books

The story of Bluppi has the potential to be a conversation topic/starter between the kindergarten pedagogues and the caregiver of the children thus adding an activity that stretches across and connects the user groups. As the representation from the municipality mentioned, it creates a value that did not exist prior (Appendix, Møte med representat fra oslo kommune 10.05.21, LXXIV). The map stored in the book can give the caregiver an overview of what the immediate environment's facilities have to offer. In addition, the guardian can see where the kindergarten usually brings the children, marked with Bluppi's footprints and where the kids enjoy spending their time.

### 4.1.5.1 Guardian Book

Through the experiences with Bluppi the children get their own personalized book to bring home to their guardians. The personalization starts with the help of the kindergarten adding the child's first name and living location (district) as well as the child drawing activities relating to experiences with Bluppi in the kindergarten. This can elicit product attachment through self-creation (Gulden & Moestue, 2011, p. 1-2). The book aims to bring the family together over common activities. Through the act of receiving a gift, with the suggestion to try out some of the activities, one may spark a feeling

of obligation to use it. As Gulden & Moestue (2011, p. 5) explains it through the rule of reciprocity: when you receive a gift, you feel obligated to give back as a thank you.

Aspects of the book might function as a device to teach the children about proper etiquette in for instance the forests. Through reading the caregiver can potentially learn some new information, if they are not already familiar with the subject) through engaging with the book together with the child. Furthermore, the book gives easy challenges such as drawing what has been done, going outside to look for specific things and finding the right information about what to bring on short hikes. Challenges have the potential to elicit feelings of adventure as the quests bring the child to explore the outdoors (Alsawaier, 2017, p.66-68). This can help make walks longer and more interesting by connecting it to wonder and play (Appendix, Transkribering 25/03 - Probe, p. LV). Challenges also have the potential to activate the child to think critically which might increase the pedagogic aspect of the book (Alsawaier, 2017, p.66-68).

Stickers can be further utilized to act as a reward system to entice the children to take part in activities outdoors. This can function in the same way as badges do, being a tool that gives motivation through visualizing progress and therefore evoke pride (Alsawaier, 2017, p.66-68).

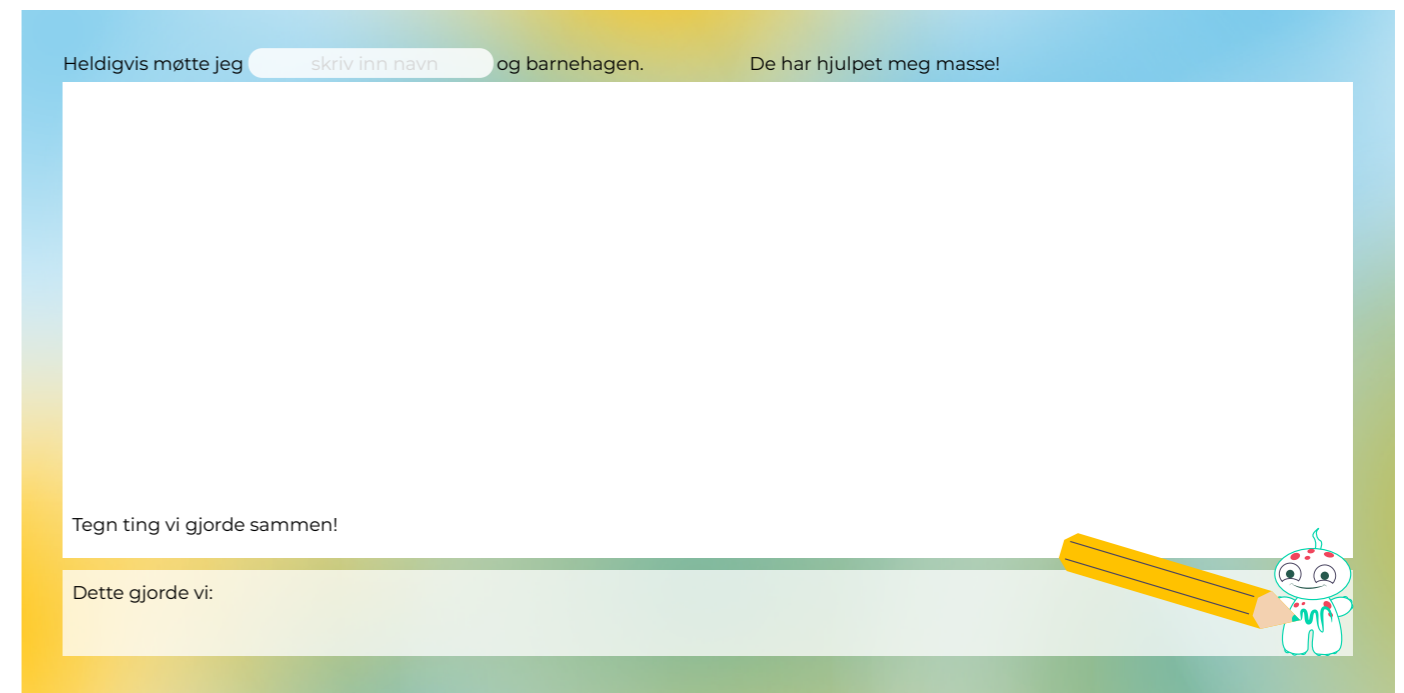
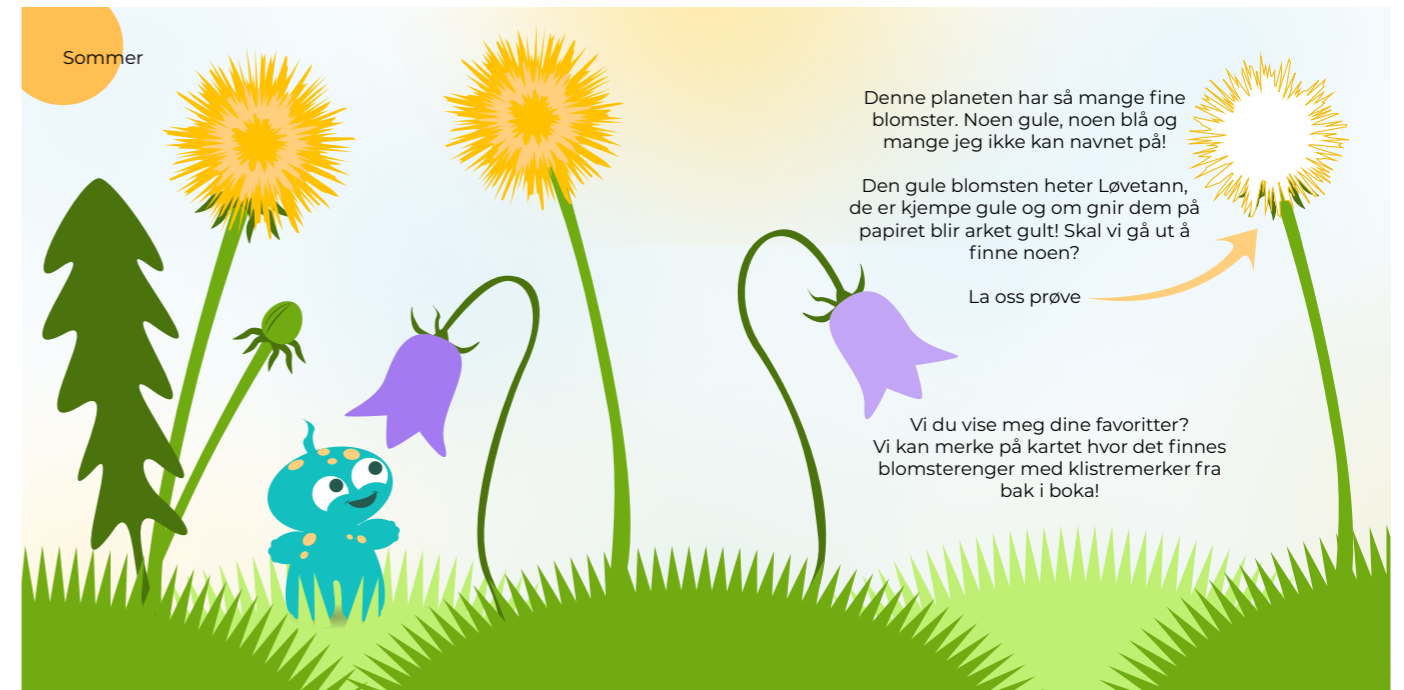


Figure 44- 45: photo by Skirstad & Marsteen

With large pictures and short sentences, the book is suited for children at the age of 3-7 (Pietschmann et al. 2014 p. 2274). The book is written in Norwegian with a clear and simple wording as there is an emphasis on teaching kindergarten children Norwegian. Therefore, the book can also be considered a tool to learn the language and for that reason, it is not produced in other languages. Several principles and examples from this book are applicable for other books. A book series has the potential to spread indefinitely as new topics to discuss with children can be added.



## 5.2 The design proposal's relation to transmedia storytelling

As means for a clear understanding of how the design proposal relates to transmedia storytelling, it has been "picked apart" and distributed within Henry Jenkins' seven principles of transmedia storytelling (2009a; 2009b).

### 1 Spreadability & drillability

As a character, Bluppi is an abstract figure that does not correlate to any specific ethnicity, culture or gender. Bluppi is what the reader sees him/her/them as and could therefore be adapted in many different scenarios.

Bluppi can be:

- A character in a children's book
- An imaginary figure that can be used to discuss and investigate the child's immediate environment
- A tool to get people outdoors
- A guide
- An AR figure connected to an app, webpage, and social media
- A game character that evolves through you being outside and participating in different activities
- Toys and merch
- With friends or other avatars that expand the story
- Short films
- Events

The story can be spread to multiple municipalities, altering the surroundings to fit the area through the probe.

Adding additional elements such as recognizable names from the present world that the parents can enjoy finding.

Arguably the Bluppi character can be used to teach new skills, drilling into one's personal knowledge.

### 2 Continuity and multiplicity:

**Continuity**  
The Bluppi story can be read in multiple orders following the age groups. As the children get older the more Bluppi learns.

**Multiplicity:**  
The same story can be read and viewed in videos. Through videos the story can be seen from another character's point of view as well as stories can be told from the inhabitants/school children themselves through the making of videos.

Arguably the Bluppi character can be used to teach new skills, drilling into one's personal knowledge.

### 3 Immersion & extractability

**Immersion:**  
Building tree huts with/for Bluppi  
AR figure in app game

**Extractability:**  
Footprints to mark pathways  
Figures/toys of characters  
Figure/toys  
Garbage bags with Bluppi's appearance/colour  
Pins and badges  
Clothing (color, spots or pictures)  
Board games

### 4 Worldbuilding

Seeing pieces of their surroundings in Bluppi's stories such as landmarks, playgrounds they visited, ponds they've bathed in, and the street they live in to blur the line between the fictional and real world.

Seeing pieces of Bluppi in their world through footprints. AR of extractable material from the story that needs to be found through the AR Game.

AR of Bluppi, or friends as filters for pictures.

Mock advertisement for events.

Arguably the world also takes hold in the children's imagination.

### 5 Seriality

Bluppi's main story is a short backstory for why they ended up crashing on earth

Every additional short story is building on this main story and can be read in any order fit for the kindergarten/school/parent wish.

The stories can be sought out through the main webpage, Bluppi's YouTube channel, Books and App.

### 6 Subjectivity

Bluppi's YouTube channel  
- Bluppi can discuss directly with its viewer, answer comments

Other characters' social media platform  
- Ozzy Ozone talks about the ozone layer and climate change  
- Greta Tuna

- A day in the life of a bee  
Involve the beekeeper's association and GROW lab to make bee information videos.

See the point of view from another character's perspective.

### 7 Performance or interaction

The children take an active part as they help Bluppi learn how to use the outside areas and through showing/teaching Bluppi what they already know as well as what they learn with Bluppi.

Design for self-made videos off Bluppi through GROW-lab, # use on media platforms, "what I did with Bluppi".

Parents can alter their surroundings to activate their child to go outside. "Find Bluppi and snurrettuts in the park, forest, garden"

Accumulate points.

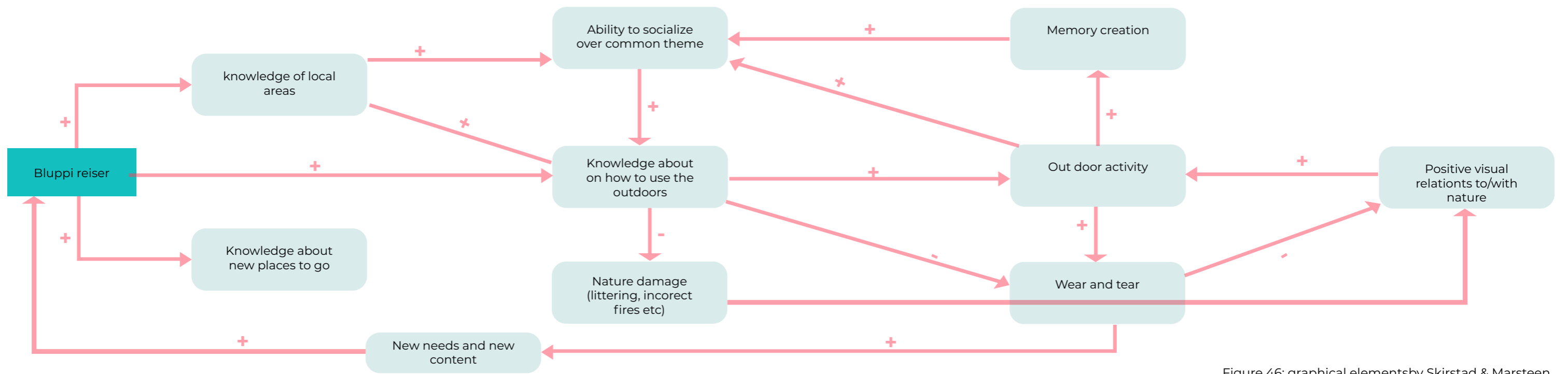


Figure 46: graphical elements by Skirstad & Marsteen

### 5.3 Analysis of the design proposal

Donella Meadows list of leverage points (1999) were used to analyze the concept in order to see how it can affect the current situation. It was wanted to get a better understanding of what changes the design proposal might cause and evoke. Further reading will provide short discussions over the leverage points believed to be the most relevant for this study, starting with the lowest leverage.

#### 11 The sizes of buffers and other stabilizing stocks relative to their flows

The webpage can act as a buffer making sure the users do not run out of stories once the physical book is read through and “used up”, in addition, the web page gives the possibility to order more books and stay entertained in the delay time before being received.

#### 9 The length of delays, relative to the rate of the system

The design proposal has the potential to shorten the delay for when a newly moved family gets familiar and integrated into the community and local environment. For the families with kindergarten children this can be done through the guardian book, the app has the potential to reach the remaining population if ads and events to spark awareness are facilitated.

#### 6 The structure of information flow

The concept provides new information channels where knowledge of the area spreads through the child and over to the

guardians. As Meadows explained “Missing feedback is one of the most common causes of system malfunction” (Meadows, 1999, p. 13). The children are knowledgeable, using their environment with the pedagogues but lack the skills and understanding of how to bring their parents there. With the concept this missing feedback link is added to connect the knowledge of the facilities back to the guardians.

Through the concept the municipality has a new information channel to reach their inhabitants using and adding narrations that can further improve the outdoor areas, increase usage and gatherings on events. The order in which the book (with additional information found on the web) is consumed can influence the understanding of the environment.

4 The power to add, change, evolve, or self-organize system structure.

The concept facilitates self-organization through self-interpretation of the facilitated material. The user can choose and add narration and themes as they see fit to be discussed and taught. Furthermore, the notion of how it should be used is left open for the user to decide.

Through the book and the children’s active imagination the caregiver has the possibility to choose what conversation they want to start with their child in order to go to specific places and do targeted behavior such as

picking flowers. The material can also function in the other direction where the child can use the narrative, map, and specific location illustrations to explain where they want to go.

Through the app one can choose who to be in a team with, self-organize meetups and plan activities through the chatting and challenge function.

The web page adds a level of self-creation the users can add to the narration and activity places, bringing the inhabitants, friends and family to new locations and events. It could also be possible to add new conversational topics.

The municipality can add paths and alter existing walkways with the Bluppi marking on their own as it requires only paint and 7 dots. This can in turn ensure that the inhabitants go to targeted places the municipality wants to make people aware of.

#### 2 The mindsets or paradigm out of which the system arises

The design proposal can show the municipality how it is not necessarily facilitation for new recreational and activity areas but rather facilitate information flow of use and existing areas and knowledge about what being outdoors can be.

The narrative and usage can help change the mindsets for those who are currently

avoiding certain outdoor areas, due to lack of knowledge regarding use or feeling as though it belongs to someone else. Bluppi world facilitates for memory creation, learning and conversational topics that can bring the inhabitants together across cultures with limited physical intervention on nature and the outside areas.

Through Bluppi the children become agents for change influencing their guardians in the process. The narrative gives the caregivers a different perspective of their local environment seeing it through their children’s knowledgeable eyes, and it opens an opportunity to learn without actively working or seeking wisdom.

#### 1 The power to transcend paradigms.

Bluppi world unifies the community over common causes that stretches beyond cultures and beliefs. One can choose to create the narrative one wants to share. Imagination has no limit.

Additionally, system flows have been added to the giga map “journeys, analysis & design proposal” to visualize the new connections in relation to feedback loops created by the new intervention. A simplified version of the system was created to give an overview of the main new flows and how the new system might impact the service’s users.

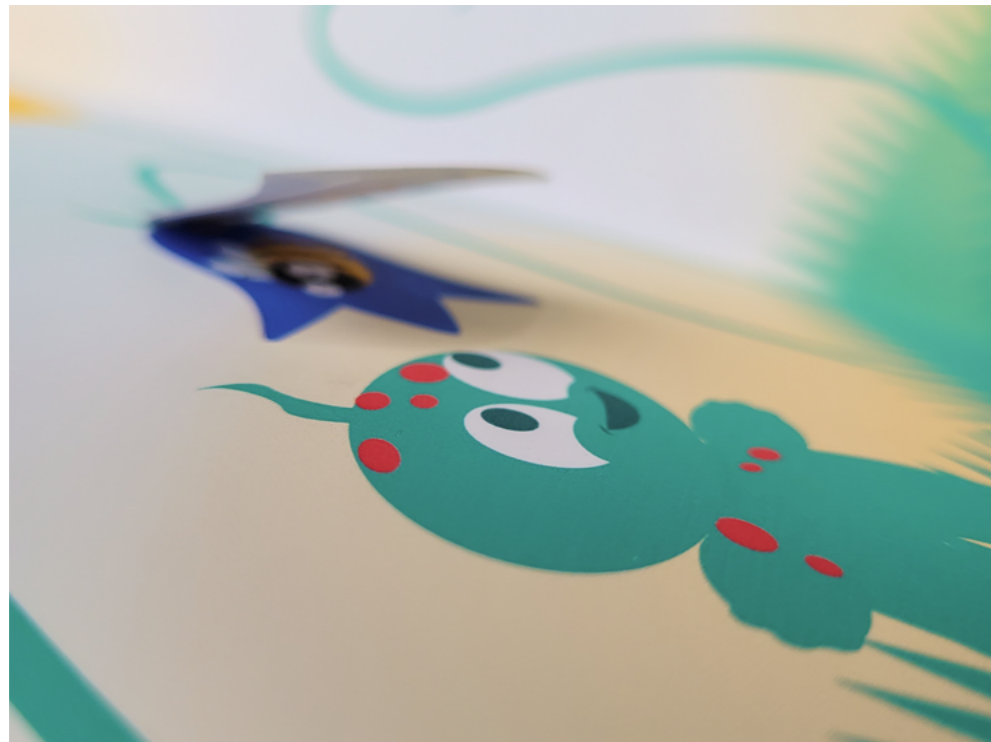


Figure 47: graphical elements by Skirstad & Marsteen



Figure 48: graphical elements by Skirstad & Marsteen

## 5.4 Discussion

The design proposal in this thesis, is linked to kindergartens as 83.2% of the kids in preschooler age, in district Grorud, participates in kindergarten (ssb, 2020). Furthermore, the restrictions related to the Covid-19 pandemic and the master thesis' short duration, it was necessary to limit the focus.

The design proposal is influenced by the findings from the probe, and its impact on the kindergarten employees and children. As the pandemic limited the amount of user testing and dragged out the research and ideation phase, the probe became a vital source for validation. In addition, the probe indicated how children can engage in participation with the narrative of a story if the conditions are correctly facilitated. This includes being present in the familiar environment, stating a short, clear, and simple task in addition to having a facilitator that listens while the kids perform and explain their assignment. Therefore, both the book and the app are designed with the intent of nudging the users to bring the design proposal with them outdoors. The project has been influenced and limited

by the ever-changing covid restriction through the entirety of the project and thus the results don't show a broad and diverse representation as was desired. Moreover, as we are two able bodied females, with an ethnic Norwegian background, the study would have benefited from more involvement by people with a greater variety of cultural influence.

We recommend that further explorations should be carried out with a more in-depth involvement of the inhabitants through workshops and user testing. This is to be done to all the design proposals components, as it can give a broader understanding of the use and needs for the outdoors areas and how our design proposal relates to it. A greater multicultural perspective would be required to give a definite answer to the research question.

## 5.5 Conclusion

The design proposal answers the research question "How can we design for experiences, behavior change, and activity in the outdoor areas surrounding Romsås to increase the wellbeing of the residents?" and its sub question "How can children influence and spread knowledge to their guardians through principles from transmedia storytelling and game dynamics?" by proposing a design that focuses on educating guardians through common activities with their children. In addition, it can make the children advocates for change about increasing the activity in the immediate outdoor environment. This can be achieved through the facilitation for knowledge sharing between the inhabitants' children and their guardians using storytelling through various mediums. By not stating what the inhabitants should be doing and rather show what can be done and where the already facilitated areas are located, the residents themselves can consider the options and choose what to do from a knowledgeable point of view.

By applying easy to understand language and communication through nonverbal illustrations, the narrative has the potential

of being understood by children, adults and people who are beginning to learn Norwegian. Through the use of gamification, the design has potential to engage and create joyful experiences in the outdoors for the guardians and their children at an early age. Moreover, the design proposal might elicit new discussion themes relating happenings and discussions towards Bluppi as a common narrative.

The research conducted in this thesis uses different methods for data collection during a time with limited human contact possibilities. The research has been gathered through literature and municipal reports, interviews, observations and through a cultural probe with kindergartners. In addition, a Facebook page was analyzed.

Romsås has a strong community feeling and the inhabitants feel that the media has portrayed their satellite city wrongfully in the media, leading people who are not from the area to inhabit misconceptions about their community. On the other hand, Romsås is the lowest scoring sub-district in district Grorud when reviewing the living

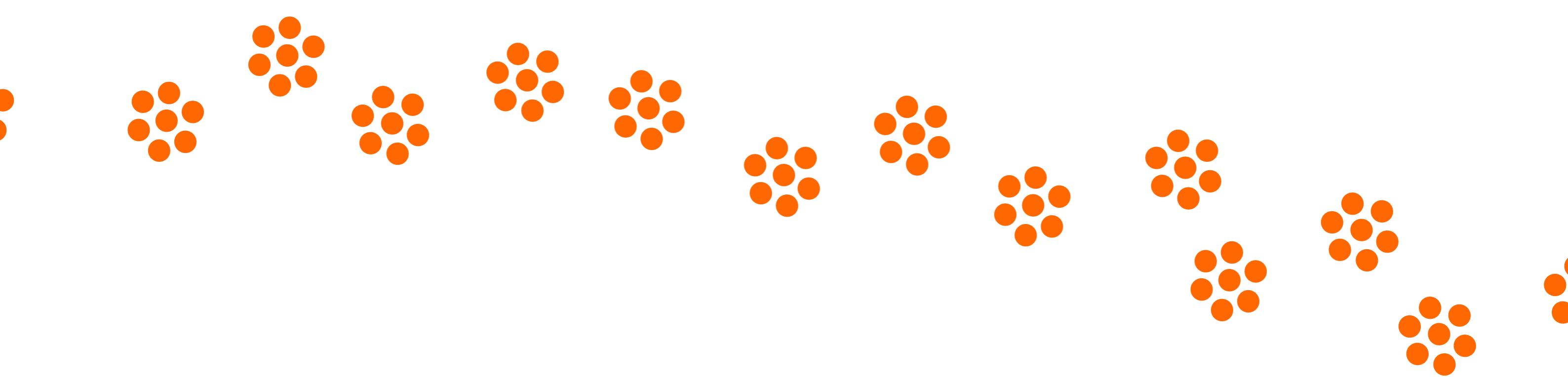


Figure 49: graphical elements by Skirstad & Marsteen

condition indicators. Even though the people living there have a great community, they do have many inhabitants with poor living conditions. From the legislation point of view, the municipalities are bound by the Public Health Law to promote health and wellbeing. And having access to local outdoor areas and green space can level out health inequality in a socio-economically disadvantaged population. However, if the options are limited, it might influence the local environment's perceived quality.

Furthermore, if one is afraid and lacks knowledge about nature in addition to not using the natural green space as a family, it can lead people to fear the woods throughout their childhood and into adulthood. Municipalities should, therefore, not only facilitate the use of green space and urban forests, but also actively use methods that help activate and motivate their inhabitants to want to use the space provided for them.

Through observations it was found that playgrounds are often made for kids, excluding the adults from play, and investigative photo objects draw attention

and sparks curiosity. Seasons elicits different forms of play and behavior. Moreover, it was observed that some facilities are secluded, and they might be hard to find without previous knowledge. Lastly the cultural probe revealed that the children are knowledgeable within themes that relate to their everyday life. With correct facilitation, the children can be a contributor in research. Additionally, findings for future improvement were uncovered such as facilitating more for the pedagogues' data collection task. The information is not in the finished drawing but in the communication that the drawing elicits during its creation.

A deeper investigation within the minority groups would have given the project a more knowledgeable basis and diversity. Given the pandemic it was difficult to conduct any indoor, close contact research activities that could have lifted the project. Throughout the study numerous approaches were designed to fit the situation where limited human contact was possible, the attempts had over all a varied success.

The design proposal meets the municipality goals of ensuring well-being in the population

through a different channel where narrative is used to create engagement and gamification to spark motivation. Not providing the facility but rather providing a feeling of joy and a good relationship to the environment as means to increase use. On the other hand, the design proposal, as it is at the current state, does not reach all children at Romsås. It is known that the majority of kids in district Grorud go to kindergartens, however there are some who do not. Thus, leaving a gap that needs further exploration. In continuation, explorations and development is also needed to consider potential branching out to inhabitants with older children. Where the book fails to reach a broad audience, the APP comes into play. However, the issue regarding screen time and the fact some people do not have the money to own a smartphone. The concept is dependent on the municipality taking responsibility for IT and management of the service, in addition to distribution of the books. Further work should involve visualization of content and user testing to quality check the analysis done through this thesis. Investigations should also be done considering where the funding and

development of the app should come from. We consider the design proposal presented in this thesis as being in the early development phase. Further development would involve user testing, grounding the concept in the user's experiences with the design proposal. Nevertheless, we argue that certain aspects of the proposal, such as the guardian book, is of high feasibility with the potential to produce a common interest that stretches across cultures. By eliciting common discussion topics represented by Bluppi the service might bring people and families together. Moreover, the service opens a new channel for knowledge sharing, and memory creation through a presentation of information about activities and facilities in the local environment. The design proposal does not force ideas on people, but rather nudge the users to help Bluppi become knowledgeable.

## References

### A

Aftret, A., V., B. (2003). *Kalte Romsås for en getto*. Retrieved from: <https://www.dagbladet.no/nyheter/kalte-romsas-for-en-getto/65913952>

Alsawaier, R., S. (2018). The effect of gamification on motivation and engagement. *The International Journal of Information and Learning Technology*. 35(1), 56-79. 10.1108/IJILT-02-2017-0009

Andersen, P., L. & Dæhlen, M. (2016). *Ung i Bydel Grorud - En analyse av Grorud-ungdoms levekår i 2015*. Nova

Anthun, K., Maass, R., Hope, S., Espnes, G., Bell, R. Khan, M. & Lillefjell, M. (2019). Addressing Inequity: Evaluation of an Intervention to Improve Accessibility and Quality of a Green Space. *International Journal of Environmental Research and Public Health*. 16. 5015. <https://doi.org/10.3390/ijerph16245015>.

### B

Bateson, G. (1972). *Steps to an ecology of mind*. The University of Chicago Press.

### D

DNT. (n.d.). *MERKEDE STIER OG RUTER*. Hentet fra: <https://www.dnt.no/ruter/>

### E

Eggesvik, O. (2018). *Det rektoren skriver, er ikke diktet opp. Det skal vi ta på alvor*. Retrieved from: <https://www.aftenposten.no/oslo/i/P3qr8b/en-helt-vanlig-fred-ag-paa-romsaas>

### F

Folkehelsen. (2011). *Lov om folkehelsearbeid (LOV-2011-06-24-29)* Hentet fra: <https://lovdata.no/lov/2011-06-24-29>

Foreldreutvalget for barnehager, (n.d.). *Utetid i barnehagen*. Retrieved from: <https://www.fubhg.no/utetid-i-barnehagen.281807.en.html>

Fransson, L. (2018). *Vil fjerne fordommene om Romsås*. Retrieved from: <https://www.dagbladet.no/nyheter/vil-fjerne-fordommene-om-romsas/69692419>

### G

Gaver, B, Dunne, T., & Pacenti, E. (1999). Design: Cultural probes. *Interactions*, 6, 21-29

Gulden, T. (2017). The social construction of child consumers: Transmedia toys in light of Slavoj Žižek's notions of pleasure and enjoyment. *Design for a Sustainable Culture, 2017, (Vol.1)*, p.117-128

Gulden, T. & Moestue, C. (2011, 31. oktober- 4. november). Contexts of experience (COE): A psychology-based design tool towards sustainable consumption through extending the product lifetime [Paperpresentasjon]. *Diversity and unity: Proceedings of IASDR2011: The Fourth World Conference on Design Research, Delft, The Netherlands*. <https://doi.org/10.13140/2.1.2782.9126>

# H

Haas, B. W., Hoefft, F., & Omura, K. (2021). The role of culture on the link between worldviews on nature and psychological health during the COVID-19 pandemic. *Personality and individual differences, 170*, 110336. <https://doi.org/10.1016/j.paid.2020.110336>

Hauge, J. & Henden, A. (2021). *Koronaregler i Oslo: Disse tiltakene gjelder i hovedstaden nå*. Retrived from: [https://www.nrk.no/osloogviken/koronaregler-i-oslo\\_-restriksjoner\\_-forbud-og-anbefalinger-forklart-1.15317395](https://www.nrk.no/osloogviken/koronaregler-i-oslo_-restriksjoner_-forbud-og-anbefalinger-forklart-1.15317395)

Hawkley, L. C., & Cacioppo, J. T. (2010). Loneliness Matters: A Theoretical and Empirical Review of Consequences and Mechanisms. *Annals of Behavioral Medicine, 40*(2), 218-227. doi:10.1007/s12160-010-9210-8

Hellum, V., L. (2017). *Jeg er så stolt av min bakgrunn*. Retrieved from: <https://www.vg.no/nyheter/meninger/i/G7Jyq/jeg-er-saa-stolt-av-min-bakgrunn>

Hunnes, M., G. (2016). Nudging How human behavior is affected by design. *Annual Review of Policy Design, 4*(1), 1-10. Retrieved from: <https://ojs.unbc.ca/index.php/design/issue/view/101/showToc>

# I

Ince, H. (2020). *I skogen sier de hei*. Retrieved from: <https://www.nrk.no/ytring/i-sko-gen-sier-de-hei-1.14166843>

# J

Jenkins, H. (2010). Transmedia Storytelling and Entertainment: An annotated syllabus, *Continuum: Journal of Media & Cultural Studies, 24*(6), 943-958, Taylor DOI: 10.1080/10304312.2010.510599

Jørgensen, K., Mortensen, T. E. (2013) Estetikk og spillelementer: Utfoldelse og lekenhet med digital medieteknologi. *Norsk Medietidsskrift, 20*(3), 241-260. <https://doi.org/10.18261/ISSN0805-9535-2013-03-04>

# L

Lazar, J., Feng, J. H., & Hochheiser, H. (2017). Research methods in human-computer interaction. (2nd ed.). *Morgan Kaufmann Publishers In* , 229-261, DOI: 10.1016/B978-0-12-805390-4.00009-1

Lerdahl, E. (2015). *Slagkraft. (1st ed.)*. Oslo: Gyldendal Norsk Forlag As

# M

Mattelmäki, T. (2006). *Design probes*. Helsinki: University of Art and Design

Meadows, D. (1999). Leverage points, places to intervene in a system. *The sustainability Institute*.

Meadows, D. (2009). Thinking in Systems, a primer. *The sustainability Institute*

Milton, A., Rodgers, P. (2013). *Research methods for productdesign*. Laurence King Publications Ltd.

# O

Oslo kommune - Bydel Grorud. (2016a). *Resultater fra Barnetråkk i Bydel Grorud*. Retrieved 11.03.2021. from <https://docplayer.me/60091150-Resultater-fra-barnetrakk-i-bydel-grorud-om-barnetrakk-s-2-kart-med-resultater-s-3-10-hovedfunn-s-11-konklusjoner-og-anbefalinger-s-12.html>

Oslo kommune - Bydel Grorud. (2016b). «Er det egentlig så ille?»: Kartlegging av ungdomsmiljøet rundt Romsås senter. Retrieved from <https://www.oslo.kommune.no/getfile.php/13280665-1526049921/T-jenester%20og%20tilbud/Politikk%20og%20administrasjon/Slik%20bygger%20vi%20Oslo/Bydel%20Grorud/Omr%C3%A5del%C3%B8ft%20Roms%C3%A5s/Kartlegging%20av%20ungdomsmilj%C3%B8et%20rundt%20Roms%C3%A5s%20senter.pdf>

Oslo kommune - Bydel Grorud. (2016c). *Ungdomstråkk i Bydel Grorud*. Retrieved 11.03.2021. <https://groruddalen.no/kultur/matfestival-og-apning-av-bigard-pa-romsas/19.25180?fbclid=IwAR1FXBTnNzJXt8zBBkZUG1UpCgARoeQ7rhZ32AmH4BFpNzxVx9erySBxBms>

Oslo kommune - Bydel Grorud. (2020). *Seniortråkk i Bydel Grorud*. Retrieved 11.03.2021. From <https://www.oslo.kommune.no/getfile.php/13398445-1615206319/T-jenester%20og%20tilbud/Politikk%20og%20administrasjon/Bydeler/Bydel%20Grorud/Budsjett%2C%20dokumenter%20og%20planer%20i%20Bydel%20Grorud/Rapporter/Seniortr%C3%A5kk%20Bydel%20Grorud%202020.pdf>

Oslo kommune. (n.d.). *Groruddalssatsingen*. Retrived from: <https://www.oslo.kommune.no/slik-bygger-vi-oslo/groruddalssatsingen/>

Oslo kommune. (n.d.). *Råd og regler i Oslo*. Retrieved from: <https://www.oslo.kommune.no/koronavirus/rad-og-regler-i-oslo/#gref>

# P

Papandreou, M. (2014). Communicating and Thinking Through Drawing Activity in Early Childhood. *Olny: Routledge. Vol.28* (1), p.85-100. DOI: 10.1080/02568543.2013.851131

# R

Lokalhistoriewiki. (n.d.). *Romsås (strøk)*. Retrieved from: [https://lokalhistoriewiki.no/wiki/Roms%C3%A5s\\_%28str%C3%B8k%29#Roms.C3.A5ssenteret](https://lokalhistoriewiki.no/wiki/Roms%C3%A5s_%28str%C3%B8k%29#Roms.C3.A5ssenteret)

## S

Sevaldson, B. (2011). Giga-mapping: Visualisation for Complexity and systems thinking in design. [Paperpresentasjon]. *Conference: Nordic Design Research Conference At: Helsinki*

Sevaldson, B. (2011). *Library of Systemic Relations*. Retrieved November 05, 2020, from <https://www.systemsorienteddesign.net/index.php/tools/types-of-systemic-relations>

Sjøvoll, V. & Gulden, T. (2016). Play Probes: As a Productive Space and Source For Information. I K. Eriksen, A. Kovacevic, N. Ovesen, C. Tollestrup, E. Bohemia & L. Buck (Red.), *Design education: Collaboration and cross-disciplinarity: Proceedings of the 18th International Conference on Engineering and Product Design Education, Aalborg University, Aalborg, Denmark, 8th-9th September 2016* (s. 342-347). The Design Society Institution of Engineering Designers. <https://www.designsociety.org/publication/39089/PLAY+PROBES+-+AS+A+PRODUCTIVE+SPACE+AND+SOURCE+FOR+INFORMATION>

Sjøvoll, V. & Gulden, T. (2017). Game dynamics in design: A process to achieve creative agency. I A. Kovacevic, N. Pavel, T. Gulden, E. Bohemia, L. Buck & A. Berg (Red.), *Building community: Design education for a sustainable future: Proceedings of the 19th International Conference on Engineering and Product Design Education, HiOA University, Oslo, Norway, 7th-8th September 2017* (s. 274-279). The Design Society Institution of Engineering Designers. <https://www.designsociety.org/publication/40325/GAME+DYNAMICS+IN+DESIGN+-+A+PROCESS+TO+ACHIEVE+CREATIVE+AGENCY+%28TO+GIVE+PEOPLE+A+CHANCE%29>

Skår, M., Rybråten, S., & Øian, H. (2018). Bynatur i det flerkulturelle Oslo. *NINA Temahefte*, 72, <http://hdl.handle.net/11250/2577165>

Sundevall, E. & Jansson, M. (2020). Inclusive Parks across Ages: Multifunction and Urban Open Space Management for Children, Adolescents, and the Elderly. *International Journal of Environmental Research and Public Health*, 17, 9357. <https://doi.org/10.3390/ijerph17249357>.

SSB. (n.n.). 12573: *Utvalgte nøkkeltall for barnehager, bydel (B) 2015 - 2020*. Retrived from: <https://www.ssb.no/statbank/table/12573/>

## Y

Roger Arnhoff Studio a.s. (1983). *Romsås En Drabantby*. Retrived from: <https://www.youtube.com/watch?v=geCvIUNw8il>