



# The multisensory method for six-year-old children at a daycare centre

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**The multisensory method for six-year-old  
children at a daycare centre**

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The purpose of this functional thesis was to create a simple guide in the form of a leaflet which contains a short description of the multisensory space method including its background of development, its usage as a method, significant impact, and the essential elements needed when building the multisensory space suitable in the daycare setting. The thesis project was implemented in cooperation with Munkkiniemen Ankkalampi daycare centre located in Helsinki. The aim was to promote the method as an educational tool to be used in designing pedagogical activities to support children's learning and development needs as an individual and as a group. Moreover, feedback given by the children and teachers was a significant source of insights when examining the impact on children's learning and development as well as further improving the learning experiences of children at the daycare.

The theoretical framework of this thesis consisted of a discussion about the multisensory method which was also part of the background and the method used in this research. There was a discussion about the early childhood education in Finland based on the guidelines defined by the National Core Curriculum for Early Childhood Education and Care and Helsinki city's early childhood education including the provisions laid by the act on early childhood education and care 540/2018. There was also a discussion on the developmental milestones mainly focused on children at the age of six in terms of physical and motor, social and emotional, communication and language, and cognitive development. Additionally, a brief discussion about children's learning styles was included.

The multisensory method was used for this thesis. The concept of the method can be described as a learning environment that can be easily modified along with the elements in it that stimulates and promotes learning by activating different senses. Using the method, a forest-themed multisensory space was built together with the six-year-old children and was associated with the daycare's small project called "Metsänuppuset". The daycare staff and children from different groups were also able to explore and experience using the space during guided activities and free activities as well as free play time/sessions.

After a month of using the method constantly at the daycare from the time the multisensory space was ready, feedback was gathered from the children and staff. The overall result was positive in terms of the impact to the learning outcomes and learning experiences of all participants. It was concluded that the aims set for the thesis activity were achieved and the working life partner recognised the potential of the method of designing and creating pedagogically-oriented activities that promote children's active involvement and deeper participation.

Keywords: Early childhood education, Multisensory method, Development milestones, Learning styles

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## 1 Introduction

In the past decades, the increasing need for high quality early childhood education has been the topic of discussions in different countries worldwide. Educational policies and practices have changed over the years in a global scale, but the goal remained unchanged - providing high quality early education that supports children to acquire necessary skills in preparation for future endeavours. Several recent studies have shown that early childhood education has made a significant impact on children's life - giving a strong childhood foundation in respect to learning and development (Koivula et al. 2017), and participation in early childhood education brings positive effect which is beneficial for the children's upcoming quest for education and therefore, provide equal opportunities to pursue the profession of their choice and establish their social status in the future (Karhula et al. 2016, cited in Koivula et al. 2017).

The significance of early education can be justified in three views. From the point of view of neuro-science, brain development in early years of life is imperative; from social science perspective, platforms of high quality is known to advance preparedness of children for school and life in general; and from econometric standpoint, high quality programs is believed to help save the state a huge amount of money in the long run. The role of early childhood education as the starting foundation of shaping future professionals and labour forces needed in the 21<sup>st</sup> century has led to the current issues across the globe. (Economist Intelligence Unit 2012.)

The Economist Intelligence Unit created a ranking index of preschool provision among 45 countries worldwide commissioned by a Singapore-based organisation, Lien Foundation. The Nordic countries were placed on the highest ranks being Finland the first, Sweden as second, and Norway as third for having the best preschool environment in the world. 16 out of 20 countries in the ranking were from Europe. Rich countries like Australia, Canada, Singapore, and United States were spotted on the lower half of the index. This means that the countries preschool programmes are not always dependent in wealth of the nation. However, this does not question the integrity and quality of preschool education in these countries. A number of factors can influence the distribution of early education such as the capacity of making the services available or affordable to the general population regardless of class or social status, including the huge variation of minimum quality standard. (Economist Intelligence Unit 2012.)

In Finland, early childhood education and care follows a system based on EduCare model. This concept satisfies the development needs of a child for daycare as well as learning needs through education and instruction. EduCare is widely used in early childhood education and care system of a Nordic welfare state. In this model, childcare is combined with education and instruction to create a unified programme where pedagogically prepared activities are implemented through play. Thus, daycare as well as other form of support system needed for small children is component of early childhood education and care. (OECD 2000.)

In this thesis, the concept of the whole project is to offer a wide variety of positive learning experiences, in which children are actively involved and hands-on in the learning process. This is done using multisensory space as a method in creating a functional learning environment and in implementing pedagogically-oriented activities appropriate for their age, learning style and development needs.

## 2 Background of the thesis

This study will be a functional thesis. This form of thesis is commonly used in universities of applied sciences as one of the options for undergraduate students in doing their research study. A functional thesis is consisting of an activity/event or a product/tool and a comprehensive written report of the whole process. The idea is to create, design or produce something functional for the working life partner or organisation. An activity can be anything arranged for a specified client group or target group of the study using a particular method. For example, it can be an exhibition in a museum or libraries or a project in an organisation. A product for instance, can be a new tool or any form of an instructional materials, guidebook, leaflet, or booklet. The primary goal is to gain understanding on how it is like to facilitate, organise, instruct, or guide a specific group of participants. (Vilkka & Airaksinen 2003, 9.) In this functional thesis, the idea is to maximize children's active participation and involvement by organising an activity using the multisensory method.

Vilkka & Airaksinen (2003, 5 & 9) argued that the objectives and results of the functional thesis should be evident in the written report. They also said that critical thinking and in-depth knowledge of the topic is important in the reporting part of the writing process. It has been emphasized that the content of the written report should be well organised and presented in a way that readers can easily follow and comprehend how the research activity is carried out, what are the results and how can it be utilised, and what is the concluding statement based on the outcome of the project. Vilkka & Airaksinen (2003, 10) also said that it is essential for the functional thesis to have a working life partner, and that the research project is carried out using practical approaches, is research-based, and shows the author/authors' professional competence and comprehensive understanding of the topic.

According to Vilkka & Airaksinen (2003) documentation is important in a functional thesis. They suggested keeping a record of some sort to gather different ideas concerning the chosen topic including books, academic literature and articles, as well as notes taken during the planning and implementation of the research activity. Vilkka & Airaksinen (2003, 19-22) recognised the vital role of a thesis diary in doing research. The author/authors are able to keep records of the details all throughout the process as well as purposeful reflections and discussions in the form of written notes, photographs, drawings or illustrations and concept maps. In this

functional thesis, every step taken throughout the project will be documented accordingly for the validity and reliability of the outcome.

## 2.1 Aims and objectives

The main objective of this functional thesis is to create a guide in the form of a leaflet intended for teachers of Munkkiniemen Ankkalampi-Duckies daycare centre. The leaflet will contain a clear and simple information and instruction on how to build a multisensory space that fits to the daycare's limited space and resources. A handy, easy to use educational tool accessible for teachers in designing pedagogically age-appropriate activities that supports diverse types of learners, is the whole concept of making the leaflet.

The aim of this research study is to examine whether the multisensory method, the method which will be used in this thesis, can be utilised to create a functional learning environment where children's participation and involvement are increased, to harness children's potential by enriching their learning experiences, and to encourage cooperation and supportive interaction between children and daycare staff. This will be done by building a multisensory space together with the six-year-old children of Munkkiniemen Ankkalampi daycare centre. Then, it will be used in two parts - guided activities and free activities/free play time, to explore different possibilities and learning opportunities the multisensory space can offer in the daycare setting. By doing so, I will have a chance to work closely with the children and the working life partner, while they will have time to use the multisensory space in different ways preferable and interesting for them.

Further, the thesis project also aims to offer children with different learning styles and learning needs to become hands-on and actively involved in designing and implementation of activities that can influence their learning experiences positively. Using the method, they will have an opportunity to contribute, make simple decisions, give suggestions, and create a dynamic child-focused learning environment.

## 2.2 The working life partner

Ankkalampi daycare centre is a private childcare service provider dedicated to offer high quality early childhood education that supports social, emotional, physical and cognitive development of children. The guiding principle of the daycare is based on the concept of hands-on learning integrated through play. They believed that by exploring the world surrounding them, children acquire new skills and develop at their own pace with the support of caring and highly trained staff. (Ankkalampi Daycare n.d.)

The daycare centre has 16 units in Helsinki, one in Espoo, one in Kauniainen, and one in Turku where they have between one and four groups of children in every unit depending on location. Each group consists of between eight to twenty-one children with the children in the said groups being between the ages of one and six. Functional bilingualism is the foundation of their daycare centres that are either Finnish/Swedish or Finnish/English. (Ankkalampi Action Plan 2018.)

The year of operation of early childhood education in Ankkalampi daycare centres states that Ankkalampi daycare units are bound to uphold two main goals in childcare service sector. First goal is to support the growth and development of the child during daycare by providing a versatile environment that ensures the safety of each child while promoting their growth and learning. For this, children are given a wide variety of opportunities to develop high-level skills of a functional nature through bilingual instruction in addition to play. The daycare's program of activities are carefully planned in respect to children's strengths, interests, abilities, age, level of development and learning needs both as an individual and as a group. For example, children under the age of three are made sure to receive basic childcare appropriate to their age group, an emphasis on fun and the nurturing of self-motivated physical activity both inside the learning facility and outside the premises in a calm environment where the working team works in a relaxed pace. Children aged three to five are organised in small groups in which their social, emotional and educational levels are developed in order to ensure a smooth transition to move up to the pre-school group when they turn six, where children receive mandated pre-school education to make them ready for the first year of school. The second goal is to provide every child with a high-quality everyday life that is safe to learn, grow and develop. Ankkalampi daycare units operate in high-quality learning facilities designed to provide a cosy home-like environment conducive for learning where children are well taken care of by well-trained professionals to address every child's need for support, attention, comfort and assistance so they can grow and develop at their own pace as their own person. Pedagogical activities for children are inspired and strengthened by the daycare's common values, which is a promise to provide high-quality bilingual early childhood education through skilled and motivated staff in small and home-like units. (Ankkalampi Action Plan 2018.)

The Early Childhood Education Action Plan of the daycare is based on the Early Childhood Education Act, the National Early Childhood Plan of 2017 and the Early Childhood Education Plans for the cities of Helsinki, Espoo, Kauniainen and Turku. This Action Plan describes how the nationwide early childhood education plan will be respected and implemented in their daycare facilities. On a daycare level, this overall action plan is complemented by day-to-day action plans that are used by staff. (Ankkalampi Action Plan 2018.)

The target group of the thesis activity are the six-year-olds (maxis group) children in Munkkiniemen Ankkalampi daycare centre located in Helsinki. Both English and Finnish are used

as a medium of instruction and communication every day in the daycare. The unit has three groups of children: minis group for under three-year-olds, midis group for over three- to five-year-olds, and maxis group for six-year-olds. Pedagogical activities based on five learning areas to develop transversal competencies or key skills necessary for children's holistic growth and development reflect on the daycare's orientation and operating culture. The daycare is promoting children's forest upbringing in a small project called "Metsänuppuiset" which is integrated in their pedagogical activities. For this reason, multisensory space can be used as a method to initiate and strengthen children's forest upbringing by incorporating their ideas into something concrete. They also get an active role in the process of building the space which offers endless opportunities to learn and explore.

### 3 The multisensory method

This chapter is all about the fundamental principles of multisensory space method in creating, in this case, child-friendly learning environment that promotes and stimulates learning. The background of the method will be introduced including its development over the years. There will also be a discussion about its distinct feature as a method as well as its impact on the learning process. The emphasis will be focused on the suitability of the method to all kinds of learners, different themes and locations, and different purposes. Additionally, a short description of the essential elements necessary in building a multisensory space whether as permanent solution or a temporary version will be included in the last part of the chapter.

#### 3.1 Background and development

The method began in Laurea University of Applied Sciences as part of the students' project in 2007. The project was participated by both Finnish and international students who worked together to create a place where a person with different cultural background and experiences, learn a new culture through interaction and sharing their memories. The multisensory method was utilised in this project followed by the first multisensory event called "Welcome to South America" the following year. The event took place in Heureka which was organised by students from different degree programs, exchange students and immigrants with South American origin. (Räty and Wikström 2017.)

The development of the method moved further with another project "Encounters in Multisensory Space" in 2009 to 2010 constructed in Laurea Tikkurila and Laurea Hyvinkää campuses. The project was partially funded by the European Fund for the Integration of Third-country Nationals. The concept of a mobile multisensory space started and continued since then. (Räty and Wikström 2017.)

To promote and advance the method even further, another project “With All Senses - Developing Open Learning Development” was inaugurated in cooperation of Laurea University of Applied Sciences and six national partners - the Provincial Museum of Lapland, Heinolan kansalaisopisto (Heinola Adult Education), Hämeen Kylät ry, City of Vantaa, the Päivälehti Museum and Metropolia University of Applied Sciences. The project started in September 2011 and ended in March 2015. It was funded by the European Social Fund. The project was intended to support a variety of learners by creating a space as a place to share and gather memories, experiences and enhance multicultural awareness of the target group. The result of the project led to new perspectives on how the method can be used effectively in different organisations and for a broad range of target groups. (Räty and Wikström 2017.)

The method is currently used in the project “Building Skills and Communities Together” (2017-2019) to advance further. This project aims to promote multiculturalism and community building as well as to strengthen integration in which learning the Finnish language is given attention. (Räty and Wikström 2017.)

### 3.2 Multisensory as a Method

The term multisensory refers to “sense experiences gained simultaneously via multiple senses”. Through different senses, a human being perceives the image of the world, learn and grow as an individual from experiences gained using different senses. (Aistien Menetelmä 2018.)

As a method, it is described as one that triggers thoughts, emotions, and stirs up memories from the past. This happens when a learning environment is created using materials that stimulate different senses and initiate learning process. It becomes the place where stories and experiences are shared through interaction and communication. For instance, it provides people the opportunity to feel and reminisce pleasant memories with the comfortable and relaxed atmosphere in the space or travel to a new place and experience foreign culture for a moment. (Räty 2011.) In a daycare setting, this can be used to organise a learning environment designed and created by children with assistance from adults. A place where children’s physical, social, emotional, language, and cognitive skills are given an endless opportunity to develop further in their own pace.

According to Räty and Wikström (2017, 113) the multisensory space is “an easily modified space where all the senses are activated by different elements.” In addition, Räty (2011) said that “it is where visitors can experience landscape, sounds and objects of a different cultural environment.” The suggestive nature of the space awakens a person’s emotional state and recollection of experiences. The space can be changed easily along with the elements present in the space to fit in different themes and projects, and to serve different purposes. It means

that it can be easily customized to suit for all kinds of target groups. (Räty et al. 2015.) At the daycare for example, children may choose a theme they are interested in and suggest different elements or even create the elements themselves. It can be used to introduce a new topic that children are not familiar with or re-create the past experience they had.

Räty and Wikström (2017) described the multisensory space as an open learning environment. It offers people an opportunity to work together, get involved, to relax, to participate, to learn as an individual and as a group in a safe and friendly environment. This is supported by Kerola (2001) who believes in the significant role of the learning environment in the process of learning. The physical surroundings have direct effects on learners for example, concrete objects provide actual experience and make abstract ideas visual and tangible. Concentration is also improved in a comfortable learning environment while undesirable factors that prevents learning can be reduced by making the physical space learning friendly. A good learning environment has positive influence on learners and on the learning process. (Kerola 2001, 131-132.)

The multisensory approach to learning according to Baines (2008) maximizes learners' engagement and promotes in depth participation at the same time an interesting and fun learning experience. Young children have attention span shorter than adults' the reason why learning must be fun and interesting for them. The most common and widely recognised way of learning for young children is through play. A play that involves the use of one or more senses is known as sensory play. What makes sensory play different from an ordinary play is that different senses are stimulated and given attention as a key element and essential feature of play. To ensure the quality of play, three important factors must be present: space, time, and materials. During sensory play, there should be enough space where sensory stimulating materials are present, and children are given ample time to truly experience and explore the richness and quality of materials. (Gascoyne 2016.) "The richer our sensory experiences the more intricate will be the patterns for learning, thought and creativity" (Hannaford 1995, 30, cited in Gascoyne 2016).

In the comparative study of Shams and Seitz (2008, 411), they asserted that "learning at all processing stages can involve multisensory processes." This claim is based on the studies made to compare how the human brain respond to learning conditions using one sensory stimulus and multisensory approach. They argued that learning is at its peak when all different senses are engaged in the process by activating different functions of the brain. For instance, when the learner hears, smells and tastes something that brings memories or experiences back to life, the learning process is stimulated by making connections between the present and prior knowledge while offering new learning opportunities. Further, when abstract ideas are visually supported and becomes tangible, learners gain clearer understanding and learning process is reinforced. (Sham and Seitz 2008.)

There is a great deal of improvement in the learning outcome when all the senses are activated and involved in the process. It is believed that if you hear, the memory remains 20%; if you see, the memory remains 30%; if you can both hear and see, the memory remains 50%; additionally, if allowed to speak, the memory remains 70%, and raises to 90% if allowed to do yourself. (Luojus 2011, 7.)

The visual representation of Luojus (2011) argument is illustrated to show how the learning outcomes are affected when different senses are engaged in the learning process (table 1). The purpose of presenting the table is to clearly emphasize the positive result when using multisensory approach and to see how great the differences are in terms of memory retention when one or more senses are involved. The table shows that there is a significant increase on the learning outcomes when more senses are involved compared to only one sensory stimulated activity. The more senses are engaged, the greater the memories are retained to the learner. It also suggests that the highest memories remain when learners are able to do things themselves as active participants and not passive observers of the learning process.

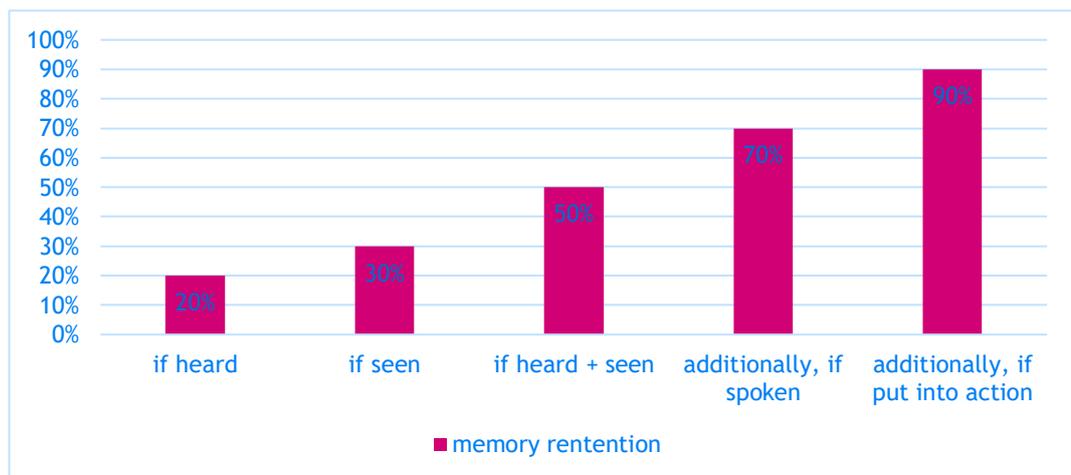


Table 1: Impact of the multisensory approach to the learning outcomes (Luojus 2011).

Aside from the positive impact to the learning outcomes, one of the most important benefits of multisensory approach is that learners can potentially involve fully and actively in the learning experience which supports different learning styles or way of learning. There are many methods that can be used to support learning experience, but they don't necessarily address the individual learning style of children. Recognising that children learn and process information in different ways promote not only positive learning outcomes but also ensure that every learner is supported and included. (Baines 2008.)

### 3.3 How to build a multisensory space?

In the multisensory space, it is necessary to pay attention to the elements present in the space since they stimulate different senses to promote learning. Though there is no wrong way of building the space, it is important to note that in the space there are elements necessary to set up the learning environment. These elements make the multisensory space friendly for learners and conducive for learning. (Aistien Menetelmä 2018.)

When building the multisensory space, objects and materials that supports the function of different senses must be present. There is something to see for example, something visible such as colourful fabrics, pictures, light effects and projected images with the use of technology. There is something to touch such as textiles made from different materials with different texture. Something to hear includes something to listen to like music that suits to the theme, musical instruments, sound of nature, and other sounds appropriate to the space. There is also something to smell like desirable odours from foods, spices, perfumes and fragrant objects and something to taste such as food and drinks. (Aistien Menetelmä 2018.)

The space can be a permanent solution or a temporary/mobile version. According to Rätty et al. (2015) the space can be built as a permanent solution to serve for different functions for instance in classrooms, libraries, conference rooms or museums with enough space to accommodate a large group. For example, a multisensory space in Laurea University of Applied Sciences that fits up to 20 people in a 30 m<sup>2</sup> room has been used for lectures and different activities. There are white curtained walls on both sides where images are projected, a computer and projector to show pictures or different visual effects, a sound-system to provide audio effects, a carpet on the floor, pillows and chairs to provide a safe, comfortable atmosphere in the space, and some food or drinks. A mobile version of a space according to Rätty et al. (2015), can be made by either using a tent with the size of 2.4m x 2.4m like a fair stand or using the space own structure to attach the curtains and to arrange the elements. This is useful especially when organising public events and building the space in public locations for a specific purpose. When putting up a movable space, it is important to consider the location, how the materials will be transported, the number of people to create the space and if there's enough room for everyone, and the appropriate materials for the weather conditions. Examples of a permanent space and a mobile version of the space are shown below (figures 1 and 2).



Figure 1. Example of a permanent space (Aistien Menetelmä n.d.)



Figure 2. Example of a mobile version of the space (Aistien Menetelmä n.d.)

When building the space, it is important to consider the location, the size of the space and the size of the target group to provide a small but intimate multisensory experience which requires careful planning. The space has to be accessible and interesting for visitors, making sure that it conveys information of the theme and its purpose. Security issues must be made sure such as the use of candles, possible cause of accidents like wires on the floor and fire safety. The space must be monitored at all times for the safety of the visitors. (Räty et al. 2015.)

#### 4 Theoretical framework

In the theoretical part of this thesis, I will discuss the early childhood education in Finland based on the guidelines and educational goals defined by the National Core Curriculum for Early Childhood Education and Care including Helsinki city's early childhood education. Another important element will be discussed in the framework are the provisions laid in the New Act on Early Childhood Education and Care (540/2018). There will also be a discussion about the important milestones expected from six-year-old children with respect to learning and development. The discussion is limited only and focused on the development of a child at the age of six because they are the target group of the thesis project. I will also talk briefly about the different ways that children learn. It means that children have different learning styles, and they acquire and process information on their own way different from others. These are important aspects for understanding how the multisensory space method supports individual learning and development needs of children, taking individual differences and developmental milestones into consideration.

##### 4.1 Early childhood education

In Finland, the law on early childhood education and care states that early childhood education and care refers to a systematized and goal-orientated unit for children's growth, education and care in which pedagogy is emphasized (Helenius & Lummelahti 2018; Finland 2018). Every child is entitled to take part in early childhood education before the age of compulsory education begins (Finland 2018). According to the law on early childhood education and care (540/2018) every municipality has a responsibility to organise and provide access to early childhood education for families who have young children. Families are entitled to 20 hours of childcare if parents are no longer getting parental support from Social Insurance Institution (Kela) and if either one or both of the parents are not working or studying. Early childhood education and care is arranged full-time if parents or the child's legal guardian is studying or has full-time employment and if it applies to the child's condition and best interests. (Finland 2018.)

Preschool education in Finland is intended for children at six years of age, whose participation is required for one year before the start of primary education. It became mandatory in 2015. The purpose is to support smooth transition and readiness of children before the start of primary education. However, when the preschool law was implemented at the beginning with not enough information, it raised questions among families on what this law meant and how it would affect their children. (Yle 2015; Eurydice 2018.)

The amendment on preschool education is being implemented using a 'mixed model'. It means that municipalities may choose whether preschool education is organised in daycare centres or

as part of the school system. However, irrespective of where it is organised, the municipality has the obligation to provide such services. (OECD 2000.)

The Finnish early childhood education follows two different national curriculums according to Kangas (2016). The Core Curriculum for Pre-school Education which is mandatory for children at the age of six, and the National Core Curriculum for Early Childhood Education and Care for smaller children where parents can decide whether or not their children participate in any form of early education and childcare services. The family has the prime responsibility for the child's wellbeing in collaboration with early education and childcare providers. In pre-school, the role of teachers can be described as facilitators of learning, who ensures that children's perspectives are taken into account when preparing the learning environment and children's ideas when it comes to play are accepted. Children's engagement and participation in the process of developing a sense of community in pedagogically based activities are considered essential in promoting cooperation and social interaction in the group. (Kangas 2016.)

In practice, the notion for pre-school education manifested in the national curriculum varies significantly when it comes to children's participation during the implementation of pedagogically designed activities. Kangas (2016) argued that pre-school education described by the National Core Curriculum of 2010 fosters supportive social interaction and communication, collaboration, shared responsibility and involvement. However, it is not always evident in daily practices. In some cases, children's role is more of a passive learner instead of being hands-on and active. Their active participation and involvement if not limited to, is mainly focused on free play. Chances are, their views, suggestions and influence towards their own learning experience are not optimized and therefore, a lot of learning opportunities are missed. (Kangas 2016.)

All early childhood education and care providers in Finland, both public and private, must follow the national guidelines in early childhood education called National Core Curriculum in Early Childhood Education and Care. Every municipality and often every daycare prepares its own early childhood education plan based on the guidelines specified in the core curriculum. The purpose of this is to provide a well-regulated system of early childhood education that serves best for children in respect to their municipality of residence and daycare's operating culture. The plan must indicate where the daycare is located and how early childhood education is carried out as well as a description of the learning environment and the nearby areas. (Finnish National Agency for Education 2019.)

An illustration of the continuous sequence when preparing the individual early childhood education plan to support the holistic growth and wellbeing of every child is used to present how the plan is prepared and structured (figure 3).

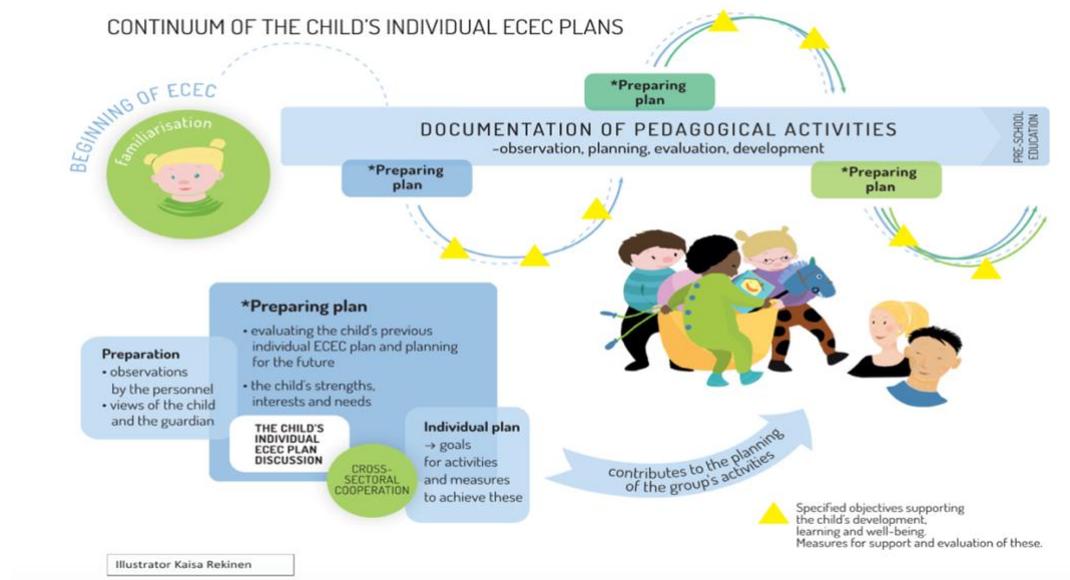


Figure 3. A continuum of the child's individual early childhood education plan (Finnish National Agency for Education 2019).

Individual early childhood education plan is prepared for each child at the daycare to support and monitor the development of a child. When preparing the plan, the child's opinions, strengths, interests, learning and development needs are taken into account. A qualified early childhood education teacher is responsible in preparing the plan and arranging a meeting with the parents or the child's legal guardians for discussion concerning the child's early childhood education background and future learning and development needs. The plan contains important information such as personal information of a child as well as the contact details of parents or legal guardians. A description of the child's strengths and interests in relation to learning and development is also included. The objectives supporting the child's growth, learning and well-being and the details on how these objectives are assessed and achieved are also specified in the plan. In addition, potential support necessary for the child's development including possible plan for medication (only if applicable) and other concerns agreed upon by all participants must be indicated. When the child's condition requires support from other experts like a special education teacher or a therapist, their participation must be included in the plan. The plan must contain an indication of when the plan was made and reviewed, and when it will be updated the next time. The child's individual early childhood education and care plan must be updated at least once a year unless the child's progress requires frequent revision of the plan. Confidentiality is strictly observed when handling the plan. (Finland 2018; Finnish National Agency for Education 2017; Finnish National Agency for Education 2019.)

When planning and implementing pedagogical activities, it is important to ensure that the activity promotes the total growth and wellbeing of a child by supporting the development of

the key skills called transversal competencies, necessary in life and in the child's future. Pedagogical activities can be implemented as guided activity facilitated by daycare staff or free activity where the role of the staff is mainly to observe and give support when needed. Children's opinions, strengths, interests and needs as well as different areas of learning are considered in planning and carrying out the activities. It is important to note that children are active participants in the planning and implementation process. (Finnish National Agency for Education 2017.)

In the implementation of the thesis activity, careful planning will be observed to make sure that the activity will be pedagogically-oriented and will increase children's involvement. In order to do this, knowledge on individual differences and milestones of development are essential in determining the appropriateness of the thesis activity in respect to skills and learning needs of children. One of the aims of the thesis activity is to maximize children's participation and involvement when building a multisensory space. To achieve this, there is a need to understand children's development in terms of physical and motor, social and emotional, language and communication, as well as cognition.

#### 4.2 Development milestones of a child at the age of six

Children develop at different pace and different rate, but they all follow specific stages of development that serves as a pattern of what to expect and what they can do at certain age. For example, a child may have well-developed linguistic skills but may struggle in their social and motor skills. It is important to note that the development of a child is different from his/her progress. Children's development refers to understanding the changes on physical growth, reasoning and thinking skills, emotional and social skills as well as understanding how surroundings and innate nature of children affect these changes as they grow. Whereas, progress happens when children move forward through the different stages of development and primarily focused on acquiring knowledge especially in academic performance like reading and mathematics that may or may not follow their natural development. (May 2011.)

It is important for early childhood educators and childcare providers to understand the development of a child in order to provide the kind of support the child needs and prepare activities appropriate for his/her age. When the child's needs are met, different stages of development take place smoothly as the child's accumulated skills are strengthened while learning new skills. Meeting children's development needs play a key role in shaping them to become successful learners and to reach their full potential. (May 2011.) In order to do this, there are two vital concepts that need to be understood and taken into consideration: individual differences and developmental milestones (Slentz & Krogh 2001).

Individual differences include “biological makeup, environmental circumstances, and personality of each child” according to Slentz & Krogh (2001, 11-12). These are major factors that influence the child’s own self and social being. For example, children at the age of six behave differently from other children of the same age. Some are able to read and write accurately as influenced by their older brothers or sisters at home. Others are not able to read or write but can skilfully sing, dance, and perform well in sports. Every child is unique, and some children may not reach the complete milestones expected at their age. This does not automatically mean that the child has some kind of developmental problems or disability. Late development of skills happens and requires more practice and support for the child to be able to acquire most of the milestones. (Coffee et al. 2013.)

According to Slentz & Krogh (2001, 10) developmental milestones refer to “the similar sequences of behaviours, skills, and knowledge that groups of children are expected to acquire at certain ages.” It means that children follow a pattern of growth and learning which is considered normal or typical for their age. However, this happens tremendously different from child to child in terms of timing and the sequence of skills they learn from infancy to school age. Changes in development is described by Bee (1997) as progressive in nature that happens fast and slow alternately. She explained that as the child develops further passing through various changes that have huge effect on future development, it slows down at some point when the child acquires new skills and discovers what he/she is capable of doing in a constant and sequential manner.

Developmental milestones can be described as indicators of skills exhibited by children at certain age such as learning to walk, talk, crawl, sit and the use of fine and gross motor skills. Children go through different stages of development as they grow. These stages are grouped according to the child’s age namely: being stage (babies ages 0 to 6 months), doing stage (babies and toddlers ages 6 to 18 months), thinking stage (toddlers ages 18 months to 3 years), power and fantasy stage (pre-schoolers ages 3 to 5 years), structure and skill development stage (school-aged 6 to 12 years), identity, separation, sexuality stage (teenagers 13 to 19 years), and recycling stages (adulthood 19 years onwards). These stages are believed to reappear at some point throughout childhood to adulthood. It means that when the child is at the turning point of facing the new stage of his/her development, hesitation and confusion may happen making the child to go back to the previous stage temporarily until he/she is ready to move forward with ease and confidence. A person who is about to start a new job and trying to learn new skills needed for employment may recycle and go back to “structure and skill development stage” expected from school-aged children. An adult longing for acceptance and love without condition tend to go back to “being stage” like babies to be loved and valued by mere existence. These regressions are considered normal and expected to happen at some point of development. (Arnall 2008.)

Children are often misunderstood as misbehaving when parents or childminders do not understand what these behaviours are, why children go through them and how to support children in different stages of development. Understanding developmental milestones and recognition of individual differences of children are vital to be able to provide appropriate support for them to successfully acquire new skills as they cross from one stage of development to another. (Arnall 2008; Slentz & Krogh 2001.)

According to Petty (2016), milestones of children can be truly understood with careful observation and understanding in terms physical and motor, social and emotional, communication and language, and cognitive areas of development. These areas are interrelated, develop simultaneously, and each one is equally important (Kostelnik et al. 2011). Since the thesis project is intended for children at the age of six, I will pay attention on the milestones of children in this particular age group.

When it comes to physical and motor development, rapid changes take place during early childhood between ages 2 and 6 when their body changes in terms of size and shape. From a cute, chubby toddler to a thinner and taller pre-schooler are some of the major physical changes in the body of a developing child. At this period, their body becomes slender as they grow upwards and baby fats change into muscles. Bulging tummy, rounded face, tiny arms and legs, and big head of a toddler has changed significantly as their body continues to reshape and gets mature. In average, a developing child gets about 7 centimetres taller and gains 2 kilograms heavier every year. By the age of 6, children are expected to grow over 100 centimetres tall, weighs about 18 to 22 kilograms, skinny looking as their body fats are at the minimum at this period, and their body structure is balanced and has grown proportionally like an adult. These changes vary significantly from child to child due to other influencing factors like genes, culture, social and economic status. (Berger 2005.) Both gross and fine motor skills are well developed also at the age of 6. Gross motor skills are described as the child's ability to run, climb, jump, and throw which involve skilful execution of these big movements of the body. Whereas, fine motor skills are more difficult to master because these involve little movements of fingers and hands such as holding a pencil or crayon when colouring or cutting papers with scissors. The main reason why it is hard for children to master their fine motor skills is because they have not developed the muscles needed to manage fine movements that require control and they do not have enough patience due to short attention span. (Berger 2005.) According to Petty (2016), when children reach the age of 6, their physical development starts to slow down, their gross and fine motor skills are enhanced, and their muscular stamina is elevated. They are interested to engage in active physical activities like sports, and their balance and coordination has developed making them capable of riding a bicycle without help. Children by 6 like to decide what to wear, manage to dress up, and tie or untie their shoes by themselves. Their fine motor skills at this age are well developed evident of their interest in painting, drawing, cutting using scissors, colouring, and writing numbers with improved

accuracy. These activities are important for six-year-olds because it is a way to express themselves particularly what they can do without any help. They are also able to write their names and understand the forms and sounds of different letters. (Bee & Boyd 2004; Petty 2016.)

In terms of social and emotional development, these two aspects are inseparable, one is as vital as the other. Children are influenced by the people surrounding them because they are social beings. (Brain & Mukherji 2005.) It is believed that attachment has been the key factor in the discussions about the social development of a child. Lindon (2012, 82) described attachment as “a bond of affection between two people, in which a sense of personal security and commitment is bound up within that relationship.” She explained that healthy development of a child requires closed attachment promoting the feeling of security and trust. Attachment involves different emotions from within that cannot be seen easily during observation. It is rather apparent whether attachment is present or not. (Lindon 2012.) According to Bowlby (1997) disrupted attachment in early childhood can lead to antisocial behaviour and emotional distress of children and adolescents. This is based on his studies made on children and troubled teenagers who have experienced disturbed attachment in early years and have been separated from their mothers (Lindon 2012; Bowlby 1997). Due to his overemphasis on the negative impact of mother’s limited time spent with children, his views have been challenged by some psychologists such as Clarke and Clarke in 1998 and Tizard in 2009. Contrary to Bowlby’s hypothesis on mother-infant attachment, Lindon (2012) referred to Michael Rutter in 1972 who said that there is no question that young children develop strong attachment with their mothers as proven by many studies, however, several studies have found strong evidence that young children establish attachment to fathers, other siblings and relatives and not solely to mothers. Barbara Tizard in 1986 also opposed Bowlby’s views by pointing out that children’s needs are constant and these needs will be provided by all the significant people in the child’s life not only by the mother but also from other members of the family including child minders trusted by parents to look after their children. (Lindon 2012.)

Children develop relationship with adults and other children because of their social and emotional needs that have to be fulfilled. At the age of 6, they like to make friends and enjoy playing in groups as they can now interact and communicate better to get along compared to earlier years in childhood. Due to their need for familiarity and common interests, they prefer to play with others of the same gender, but this is not always the case. They start to understand others’ perspectives and feelings and become less self-centred. They remember rules and follow them. They engage in making their own rules in games. Additionally, children at this age exhibit different feelings and can quickly change their moods as well as confidence in doing things by themselves. A major milestone at this age is that they start to take care of their belongings and take responsibility of their own things. (Petty 2016.)

Concerning language and communication, children develop their linguistic skills mainly through communication with people whom they trust and comfortable with (May 2011). They communicate not only with adults but also with other children in any possible ways to express themselves. Communication involves verbal and non-verbal ways of expressing oneself. Verbal communication involves the use of language for instance, when the child interacts with adults using the language familiar to him/her and using simple words or short sentences with varying tone and volume. Some children can speak more languages than others as influenced by their environment, culture, or family upbringing. Non-verbal communication is often described as the use of body language, gestures, facial expressions, or other movements that supports interaction and self-expression. It also collaborates with words in communicative situations. (Lindon 2012; Smith & Cowie 1991.) Many theories have impressively explained conflicting views of how children learn to speak but not one has tackled all areas of language development. From the point of view of behaviourism, B.F. Skinner stated that children acquire language skills through imitation and reinforcements. It happens when children's attempt of using the language is given positive feedback or rewards by adults and mistakes are not rewarded. However, this view failed to recognise that parents and other significant adults are way more flexible in providing appropriate support and encouragement for children's language development than relying on reinforcements. On the other hand, Lev Vygotsky proposed the idea that language is a medium of expressing what the child is thinking. Children and adults may use the same language and same words, but children may not totally understand the meaning conveyed and representations of these words. Children also learn the words mainly based on their own thoughts that complements their actions. Some theorists claimed that genetic factors are involved in the language development of a child which started from the work of Chomsky in the 1960s. They argued that inborn linguistic structure already exists in the brain of a new-born child and language develops as the child matures. In addition, they also believed that biological system activates language skills when children listened to or are exposed to spoken language. Research findings of experts from neuroscience have found evidence supporting the claim of genetic role in language development. (Lindon 2012.)

Language development of children follows a pattern which involves learning the rules of sounds, words, meaning, as well as combining words in an appropriate order that can be understood. Children from 6 to 9 months are able to produce some sounds of vowels and consonants, crying and cooing sounds are minimized. At 18 months, children begin producing one- or two-word sentences. For ages 2 to 3 years, an expected increase in their vocabulary for about 600 words and are able to produce three- and four-word sentences in random orders sometimes. At this stage, they are interested in rhyming words and songs. By 3 years, a child can speak in ways that is understandable to adults, with vocabulary of about 1,000 words and can speak longer and more complex sentences. By 4 to 5 years, children produce longer sentences with more appropriate grammar rules when speaking to adults. They are still improving their linguistic

skills and still have difficulties in using more words in complex sentences. (Smith & Cowie 1991.) Throughout the middle childhood, children constantly expand their vocabulary at the rate of 5,000 to 10,000 words per year. For children between 5 and 6 years, their vocabulary have increased around 15,000 words which makes an average of 10 words per day. (Bee & Boyd 2004.) Children between 6 to 8 years are well versed and exhibit linguistic competence with improved accuracy and enriched vocabulary (Puckett & Black 2001). A typical six-year-old uses appropriate grammar, correct sentence structure as what they learned and observed by interacting with adults. They also ask a lot of questions about something that they do not understand or something that they are interested to learn. They are able to express language orally when sharing stories, they have previously heard. When telling stories, children at this age skilfully utilise different facial expressions, hand gestures, and a variety of voices and volume. Their improved linguistic skills have supported them when engaging with adult conversation. As their vocabulary increased, their reasoning ability is enhanced. They demonstrate the use of words when solving conflicts instead of gestures. Children at 6 exhibit a lot of mood swings, are good in making friends and like playing with them. They are more independent compared to earlier years and require less adult supervision. (Petty 2016.)

When it comes to cognition, cognitive development involves the child's reasoning and thinking ability as well as the capacity to solve problems in a logical way. Two influential cognitive theorists who have shaped researchers' work in understanding the child's cognitive development are Jean Piaget and Lev Vygotsky. Piaget viewed children as thinkers, whereas Vygotsky considered children as learners. (Berger 2005.) As thinkers, Piaget believed that children have an active role in their own learning, are capable of creating their own thoughts and understanding, and expand their knowledge into higher level of thinking when provoked. However, as learners, Vygotsky explained that learning takes place when children engage in social interaction. He pointed out that skills are already there within the child and are enhanced through experience. He also recognised language as a significant social tool that supports children's interactive learning experience. Although Vygotsky became the first to oppose Piaget's argument, they have agreed in many things more than they have disagreed that influenced and contributed to the work of other theorists in the continuous quest for understanding cognitive development of children. (Lindon 2012; Berger 2005.)

Cognitively speaking, children at the age of 6 are drawn to play which involves different senses, construction games and manipulating objects as a way of learning by exploring on something that attracts their curiosity and interests. Their attention span is between 20 to 30 minutes which is longer than the previous years. Children at this age have better concentration and can sit longer for example, for story time and focused activities. They understand simple rules of the game and strictly follow the rules and even enjoy making their own rules if there are none. Though it can be confusing for other children, some can already distinguish left from right. Children have more awareness of time which they usually connect with daily routines, for

example eating breakfast early in the morning, time to go to the daycare, time for morning circle and activities, time for outdoor play, when to eat lunch, resting time, snacks, time to go home, dinner time and bed time. Some children can tell time using digital clocks; however, the concept of time is still hard for them to fully understand. By 6, they are familiar with the weather when it is sunny, rainy, cloudy, windy, or snowy and the four seasons for example, winter is associated with snow, spring with the blossoming flowers and growing grasses, summer with sunny days and long vacation, and autumn associated with colours yellow, red and brown. Their awareness of the weather and seasons are also connected to the kind of clothes appropriate to wear and are able to dress up completely without asking for help from adult. They also know the days of the week and familiar with the idea that schools and daycares are closed on weekends. They can figure out the meaning of new words when reading short stories using sounds and context clues since their vocabulary and understanding have improved. They like reading stories about things that interests them. By 6, children can write short stories using simple words and sentences about their family or friends and things they like. They are still learning the letters and spelling, so it is common that they write the words based on the sounds and often not able to write the words correctly. Their mathematical skills have also developed because now they can count over fifty and can regroup numbers using simple addition and subtraction. They are now familiar with coins and paper money. They like to role play where they can use play money to buy and sell something from their play shop. Six-year-olds are interested in putting things together and breaking them apart which help them learn simple fractions easily. Using objects that are easy to manipulate, they discover how to divide the whole into one-half and one-fourth. They are interested in patterns from simple to more complex from what they see in picture books and daily routines. Additionally, they can draw two-dimensional shapes like square, circle, triangle, rectangle and oblong, and can recognise some three-dimensional shapes like cones and spheres. (Petty 2016.)

These milestones are based on the development of an average child and differs tremendously in children. In the thesis activity, individual differences and milestones of development will be respected and observed and considered crucial part of supporting children's holistic growth and wellbeing. However, it does not ensure that everyone in the target group will be able to get the same learning experience as the others since children have different learning styles. It is therefore necessary to know the different ways children learn.

#### 4.3 Children's learning styles

Understanding different learning styles would increase the method's potential to address children's individual and group learning needs and promote inclusive learning for children.

Doing so requires a clear definition of what learning means and knowledge of different methods children use when gathering and processing information.

According to Kolb (1984, 38), “learning is the process whereby knowledge is created through the transformation of experience.” The process of learning varies from child to child due to individual differences and the fact that each child develops at different rate. Every child learns in a way that suits to his/her needs, skills, interests and based on how the child acquires and processes information in his/her own approach. Learning is divided into three basic styles that a person adapts to process information. First learning style is called ‘auditory learner’. Approximately 15 to 20 percent of the population are auditory learners. They take information by listening. Their sense of hearing supports their learning needs but exposure to noise is a huge distraction. They are friendly and enjoy speaking to people, and more often, feel the need to talk out loud when doing some quiet activities. For children who have this learning style, they need to hear the sound of letters or words in order to learn reading or speaking, some children are able to retell a story they have listened to, and some understand the instructions better when they hear it compared to reading a written text. The next learning style is known as ‘visual learner’. This way of learning is common and used by around 60 to 65 percent of the population. Visual learners perform better when they see the information and instruction. Faces remain in their memory better than names. They are keen to details of what they see instead of the overall image. Children in this learning style have a strong sense of creativity, have vivid imagination, artistic and are able to paint or draw something skilfully. And the third learning style is the ‘kinesthetic learner’. Around 10 to 15 percent of the population are kinesthetic learners. They learn by doing, for example by building, creating or producing something. They are moving constantly like touching things that often misunderstood as not paying attention even if they are actually listening. They perform well in sports or activities that require body movements. However, they struggle in handwriting, oral and written instructions. (Anall 2008.)

Children by the age of 4 demonstrate their way of learning and preferred learning style can be identified from this point on. Understanding children’s own learning style has a direct impact on the quality of learning and children’s learning experiences. Children’s learning styles must be taken into account when preparing for activities in order to design adequate learning materials and tasks suitable for them. As a result, children will be more motivated, will enjoy learning and will gain positive learning experiences. For example, when the child does not sit still and is in constant motion, he/she is a kinesthetic learner. Give him/her a task that needs movement like placing the pictures on the wall or organising toys instead of taking it as misbehaviour or being naughty. Some children who refuse to participate in discussions, engage him/her to listening exercises. And children who learn better using visual materials, let them participate in arts and crafts, painting or drawing. It means that all learning styles have to be considered in a learning environment so no child will be left out. (Anall 2008.)

## 5 Implementation

The whole process of the thesis activity is illustrated in order to show the overall picture of how the activity was carried out (figure 4). The purpose of this visual illustration is to give a reader an idea of what to expect before going through all the details. Additionally, it will guide me in the writing process to stay on track and follow the necessary steps involved in the implementation.



Figure 4. My thesis implementation process.

The idea of the thesis activity can be traced back when I was working in a daycare centre intentionally built with sensory friendly facility. The classrooms were carpeted and soundproof, the walls were decorated with colourful movable objects and toys that can be sorted and manipulated by children and decorative figures made of textile hanged on the walls. It became an inspiration and the concept of creating a learning environment using sensory stimulating materials with children as active participants arose. I did not have a clear idea of how to do it then until I heard about multisensory space method from other students in Laurea University of Applied Sciences in Tikkurila who were participating in ELO-Project.

## 5.1 Planning

Since I have been working in different units of Ankkalampi daycare centre for few years, contacting them regarding the work placement where I intended to do the thesis project was easy. After sending messages by email to the in-charge person, I got a positive answer and offered to receive payment for the work placement to be part of the working team in another unit. All the details including the starting date, the unit where I will be assigned, and the contact information of the unit manager were discussed and agreed.

During the first discussion with the teachers, I learned that the daycare needed fresh ideas and new ways of making pedagogical activities as concrete as possible and to increase children's participation and involvement. Using the method, I wanted to address that need by creating a learning environment where children are actively involved and hands-on in the learning process. It would be beneficial for children to gain first-hand experience in building a learning environment considering the milestones they have developed and the skills they have acquired throughout their development over the years (Petty 2016). In addition, since children have different ways of learning - some learn by seeing, some by hearing, and others by doing (Anall 2008), multisensory approach can be utilised when creating a learning environment using materials that stimulate different senses (Aistien Menetelmä 2018), could enhance learning outcomes on the individual level (Gascoyne 2016) and promote inclusion for diverse group of learners (Anall 2008). Furthermore, activities can be implemented both during guided activity sessions and free activity or free play time (Finnish National Agency for Education 2019). I was so interested to use the multisensory space for varied activities to be able to acquire broader insights and different perspectives from the children and staff.

The initial plan for the project was to have guided activity sessions with children focusing in one body sense at a time and then combine all the senses for the final session. However, this plan missed the important aspect of my research which is the multisensory space as a learning environment created with the children and for the children. Space is an integral part of the method taking into account the size of the group, size of the room, accessibility and safety (Räty et al. 2015). As a result, the plan was developed into the idea of creating a multisensory space suitable in a daycare setting considering the limited space and resources as well as the busy schedule of the daycare. To maximize the impact of the project, the choice of the room where to build the space was well-thought. It had to be big enough to accommodate a whole group of 7 participants but small enough to provide intimate social interaction and to avoid the tendency of children being widely scattered. In addition, daycare staff and children should have easy access to the multisensory space to make them feel welcome as well as safety of the children could be monitored at all times (Räty et al. 2015). Along with the teachers, we concluded that the best way to do it was to use the room accessible to different groups at certain times.

In another meeting with the teachers, I introduced the method and the thesis plan. I wanted to know if they were familiar with the multisensory space and if it had been done before in the daycare. It turned out that the concept was totally new for the working life partner. During the discussion, it was mentioned that they have been doing sensory stimulating activities from time to time but focused on one sense at a time. They were not familiar with the idea of creating a multisensory space where all the senses are given attention using different materials put together to create a learning environment. They expressed their interest and support after hearing what the method was about with the help of the leaflet I made. I created the leaflet (Appendix 1) based on concept originated from Minttu Rätty, senior lecturer and project manager in Laurea University of Applied Sciences who has been working on different projects and actively engaged in the development of the method since 2007 up to the present in cooperation with other lecturers, students and different organisations. The method has been used in different projects mainly for promoting multicultural awareness and integration (Rätty 2014) as discussed in page 9. However, one of the main features of the method is to cater different kinds of learners for different themes and purposes which makes it useful and functional in a daycare setting. The leaflet was designed for daycare use to support teachers in understanding the concept of the method, its development and the impact on learning outcomes as well as to guide them about the important elements needed when building a multisensory space in the future. Having said that, the content of the leaflet was made simple that includes only necessary information about the method enough to fit in 2 pages A4 size copy paper for easy access and to make it handy for the daycare staff. I wanted to try first if the method could be a good tool suitable at the daycare by doing it with the children so I could still do necessary adjustments in the leaflet. The final copy of the leaflet was given to the teachers of Munkkiniemen Ankkalampi daycare centre at the end of the project.

The plan for the thesis activity was presented to the teachers. I wanted to build a multisensory space with the six-year-old children at the daycare. The project involved 4 stages: building the space, using the multisensory space, collecting feedback, and taking off the space. The estimated timetable for the whole activity was 6 to 8 weeks from the time the plan was presented, very flexible and could be extended if needed. The allocated time for building the space was 1 to 2 weeks for 20 minutes each day after resting time in the afternoon which consisted of an introduction and gathering of ideas with the children, collecting materials, building plan and putting it all together. The space will be used to bring multisensory experience for the children and staff and will be divided into two parts: guided activities and free activities that could last for few weeks. The space will be utilised also every afternoon during free play as part of the daily routine when children are mixed and divided to play in different rooms before the outdoor play. For the six-year-olds, the multisensory space will be used for resting time where they can relax and listen to calming music. For this to happen, I asked the teachers' permission to use the daycare's mini library since it was the room where

my target group rests every day and the room was also used for morning circle and afternoon free play by other teachers. In other words, the room was chosen due to its functionality and accessibility for all children and teachers at the daycare. They liked the whole idea and offered assistance when needed to carry out the plan.

Before implementing the plan, the decision was made that a letter would be sent informing the parents of the six-year-olds about the thesis project where I introduced myself, the purpose of the activity with short description, the participating children and a reassurance of complete anonymity of the children all throughout the process (Appendix 2). The project was implemented in accordance with the strict policy and ethical values of the daycare. For example, personal information of children gathered during the implementation of the thesis project will be kept confidential, pictures taken during activities at the daycare that could reveal the identity of the children must not be used for any purpose without permission, children's safety is always the priority, children's best interest is the primary consideration when making decisions concerning them, and their opinions and views must be respected. Confidentiality was guaranteed to all participants including all the information we come across with when carrying out the project. The United Nations Convention on the Rights of a Child made it clear that the child's right to privacy shall not be violated or undermined (Ombudsman for Children in Finland 2014). Furthermore, the United Nations International Children's Emergency Fund (UNICEF) mentioned in their statement on observing children's right to privacy and confidentiality that, "the dignity and rights of every child are to be respected in every circumstance. In interviewing and reporting on children, special attention is needed to ensure each child's right to privacy and confidentiality, the personal records of children in contact with the law shall be kept strictly confidential and access to them shall be limited only to duly authorized persons." (UNICEF 2018.)

## 5.2 Building the space

At this stage, my role can be described as a participant observer. According to Herrmann (1989), a participant observer is someone who is part of the group and at the same time the one doing the research. It is also someone who listens, ask questions, observes, records important details, describes the activity, and gathers information in various ways to accumulate different perspectives from the participants. The purpose of this is for me to work with the children while promoting cooperation and interaction between them.

On the first day, the six-year-olds were gathered around to talk about the activity. I started by introducing myself as someone working there and also as a student planning to do an activity with them for the next few weeks. In simple words using English and Finnish, the purpose of the activity, what to expect in the coming weeks, and their role in the activity were explained to children to make sure they understood. They were also asked how they felt about taking

part in the activity. They were informed that they were free to choose whether to participate or not and that they were all welcome to share ideas and say what they like and do not like to do. Since it was a Finnish-English daycare, both languages were used in everyday interaction between staff, parents and children. Most of the children in the pre-school group understood English really well and part of my job was to strengthen English element in this bilingual daycare. Those were the reasons for choosing English as a language of instruction for this project, though children were free to use the language they were comfortable with. There were 7 children in the pre-school group who participated in the project.

During the first meeting with the children on the first day, they suggested some ideas for our forest-themed multisensory space such as making a bonfire using small sticks so they could play grilling, collecting berries, making trees, finding insects and painting the colours of forest. The forest theme came from the forest upbringing project of the daycare called 'Metsänuppuset' in which the staff agreed that I could adopt the theme for this thesis. The purpose of their project was to promote environmental awareness to the children with special emphasis on the forest. It was discussed with the children that we might not be able to collect berries since it was not the right season and berries were not ready at that time, but I could bring some for us to taste and share stories or experiences related to berries in one of the sessions. One of the children volunteered to bring a rubber snake toy and other soft toy animals. I wanted to include most of the children's ideas either as materials or as topics for discussions.

The second day was about the exciting trip to the forest nearby. Those children who wanted to collect some sticks for small bonfire and few dried cones from pines or spruce joined me in the trip to the forest (figure 5). Some of the children who wished not to join in the forest trip participated in the outdoor sports activity with another teacher at the daycare. Their decision whether to join in the forest trip or not was respected. There were four children who participated in the trip to the forest with me. Since the trip usually takes time, we did it in the morning before lunch. The 20-minute allocated time was not followed on this day.



Figure 5. Materials collected by the children during the trip to the nearby forest.

On the third day, I gathered the children around to create a plan what ‘our’ forest would look like and where to place the materials (figure 6). The plan was made by drawing children’s ideas on paper to provide both audible and visual instruction that could easily be understood by children.

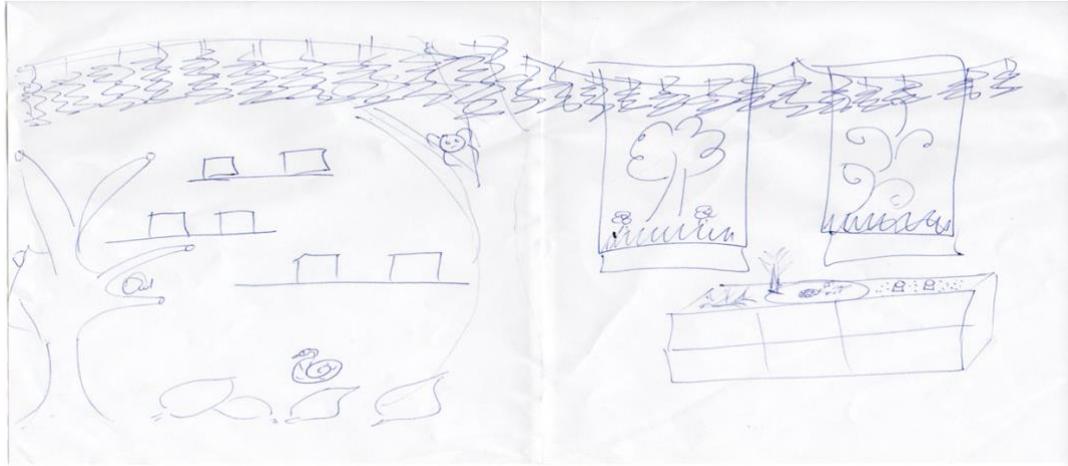


Figure 6. Building ideas and plan

After checking possible sensitivities of children in the group, I made a list of materials we could use and organised them in a table format to make sure all the elements would be present (table 2). Having a list was very useful and it made the gathering of materials smooth and orderly.

Something to touch	Something to hear	Something to smell	Something to taste	Something to see
Involves different texture of elements found in the forest such as pine cones, spruce cones, bark from dead trees, etc.	Listening on relaxing music resembling nature/forest sounds. We can also play animal Bingo game where they listen to animal sounds and guess what animal makes the sound until they complete the Bingo card	Using pine essence and forest fruits fragrance to bring a forest like ambiance to the space	Berries that can be found in the forest like lingonberries and blueberries.	All elements present in the space for children to see and explore. Magnifying container for forest bugs, slimy rubber frog and snake toys, mini bonfire, and their own canvas painting of what they can remember from forest experiences they had before (mainly focus on colours in the forest)

Table 2. List of elements for the multisensory space.

Since I did not have a lot of time to make all the materials with the children given the busy daily schedule and scheduled events at the daycare such as Easter, Vappu, Mother’s day, trip to the zoo, and summer party, I prepared some of the materials beforehand such as cutting huge card boards, bird’s nest and attaching the cones in frames because it takes time for them to dry. Another reason was, attaching them in the frames were difficult because they kept falling off the frames, therefore I had to use glue gun which was off limits to children for safety

reasons and add a lot of glue to keep them intact. I would also provide the rest of the materials to complete the elements like those that are available from the shops such as berries, forest fruit fragrance and pine essence.

On the fourth day, along with the children, we started transforming the room into a multisensory space. We brought the materials needed for the construction. The children began by crumpling the recycled brown paper. It was then erected and attached to the wall and shaped into a 3D tree (figure 7). The children attached the lower part to the wall with a blue tag while I attached the highest part to the ceiling. Making a 3D version of a tree was a new experience both for me and the children. The purpose was to create different texture of a tree aside from the usual cardboard and paper. We did not manage to attach all the leaves in this session. We stopped and continued the next day.



Figure 7. Making the 3D tree.

The fifth day began with the aim of finishing both the 3D and the cardboard trees. Since it was too high for the children to attach the leaves for the 3D tree, I had to do it. I fixed the leaves to the ceiling while they were doing the maple tree on the other side of the room. The maple tree was made of ordinary cardboard with the leaves of green, yellow and brown. The children attached the tree on the wall including the leaves with the blue tag. They were so pleased when the trees were done.

The sixth day went easy when children worked together in making small bonfire and placing some plastic leaves to a stick attached to a piece of wood. They also placed the rubber animals and magnifying container on the wood next to the tree. They tried to follow what was drawn in the plan carefully. As we carried out the plan, individual differences and previously acquired skills of children were visible (Slentz & Krogh 2001). One wanted to lead the group, others preferred to do the task quietly or waited for verbal instruction or worked in pairs. Each one of them had shown different ways of doing things but they got along well as evident of

cooperation and interaction within the group. Children were actively involved in planning and implementation of the activity (Finnish National Agency for Education 2019).

On the seventh day, the rest of the elements were added in the multisensory space. Some of the children positioned the frames to the shelves while others scattered some dried leaves with forest fruit fragrance and put few drops of pine extracts in the small containers. The children were excited and liked the refreshing scents of pine extracts and forest fruits that created a relaxing ambiance in the room. After the session, they wished to stay in the room for a few more minutes to try the elements like touching the different texture of materials in the frames, using the magnifying glass and squeezing the rubber animals. I asked the teachers if it would affect the next activities if I give few minutes more to the children and they said it was fine.

And finally, on the eighth day, we had time to talk about the names of materials attached on the frames (figure 8). I introduced the English names to the children, and they tried to give the Finnish names. They knew some of the materials like cones of pine (männyn käpy) and cones of spruce (kuusen käpy). However, materials such as lichens (jäkälä), bark of birch tree (koivun kaarna), and bark of pine tree (männyn kaarna) were difficult for the children. For this, I realized that having these materials in the multisensory space was an effective way of introducing them to the children. The names of the materials were typed, printed and attached to the wall at the end of the day.



Figure 8. Naming the materials on the frames.

Before I left the daycare in the afternoon of day eight, I doubled check everything in the multisensory space that we had all the necessary elements and checked my list (table 2) what will be added later on. For something to see, there were small insects made of plastic in a magnifying container, a magnifying glass to use for slimy rubber frog and snake; and for something to smell, we had pine essence and dried leaves with forest fruits fragrance (figure 9).



Figure 9. Something to see: magnifying container with small plastic insects, magnifying glass for examining the rubber snake and frog. Something to smell: forest fruit fragrance and drops of pine essence.

For something to touch, there were cones of pine and spruce, dried lichens, few barks from different trees glued in small frames, rubber animals and soft toys (figures 10, 11, 12 and 13). There were other elements that children could see and touch such as the 3D version of a tree created for a real-like texture aside from the usual card board, a 3D bird's nest with small eggs just like what we saw in our forest trip, a canvas to be painted by children for colours that reminds them of a forest, and a mini bonfire suggested and made by the children.



Figure 10. Something to touch: bird's nest and soft toy.



Figure 11. Something to touch: cones of pine and spruce.



Figure 12. Something to touch: barks of birch and pine trees.



Figure 13. Something to touch: dried lichens

For something to hear, we could listen to music for a relaxing sound of nature, animal sounds when playing bingo game and children's stories or thoughts about their feelings being in the forest (figure 14).



Figure 14. Something to hear: Bingo game where children listen and guess the name of the animals making the sound.

For something to taste, there would be lingonberries and blueberries to emphasize different taste and a topic for discussion with the children (figure 15).



Figure 15. Something to taste: lingonberries and blueberries.

Furthermore, I had to make sure that the multisensory space was safe to use for all the staff and children at the daycare by checking possible loose objects and small materials that were unsafe for smaller children including removing of obstacles that might cause accidents. Looking at the ready to use multisensory space made me feel so proud of the children (figure 16). I felt empowered by the experience I gained during the building process.



Figure 16. Forest-themed multisensory space ready to use.

The multisensory space was mostly ready after over a week, and the time for exploration and learning experience was about to begin. The children were excited to try and use the different elements.

### 5.3 Using the multisensory space

My passion in understanding the potential of the method even further led me to the creation of a well-thought plan on how the multisensory space would be used in an optimum level (figure 17).



Figure 17. The plan for using the multisensory space.

In order to explore the richness of the materials present in the multisensory space, I organised the guided activity sessions for the six-year-old group. The purpose of this was to reinforce children's learning experience using the sensory friendly environment that we created earlier. In addition, I wanted to examine how the sensory stimulating materials affect children's thoughts, behaviours and feelings towards different activities during the guided sessions. In order to give other teachers and smaller children an opportunity to explore the multisensory space and use the different elements present in it, the space was also used for free activities or free play time. Another reason for this was to expand the method's impact to all children and staff at the daycare as well as to enrich their involvement in the thesis project. The sessions for guided activities and free activities will be described separately to provide a clear idea on how every session went and what were the tasks involved.

#### 5.3.1 Guided activities with the six-year-old children

The first part of the multisensory experience was intended for guided activities with the six-year-old children consisted of 5 sessions (figure 18). The main aim for the guided sessions was to use the learning environment that stimulates the five senses in different focused activities.

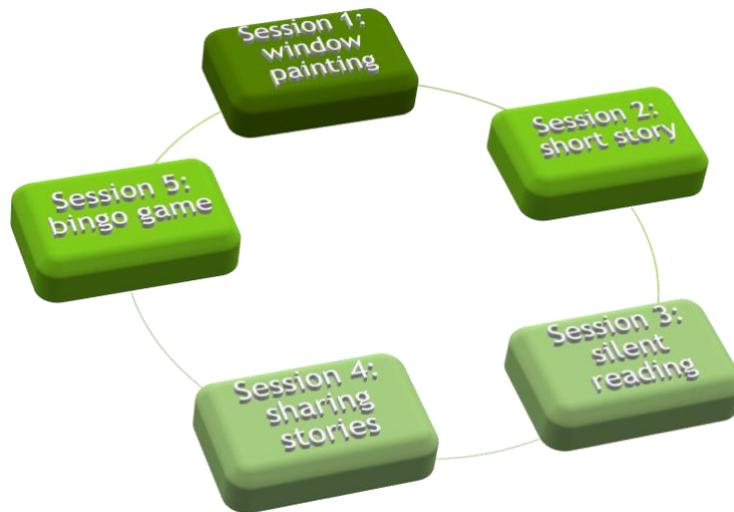


Figure 18. The five sessions during guided activities.

Each session was aiming for a specific purpose. The window painting was suggested by one of the children. The purpose was for them to express their own feelings and ideas through painting, touch and feel the paint on their fingers and learn to negotiate as a group through open communication. For the short story time, the purpose was to enhance the children's listening skills and to see how the learning environment affects them. The silent reading was organised to give them time to read or look at pictures and think on their own, and to let the relaxing ambiance of the space calm the children down especially the active ones. The sharing time was planned to use the multisensory space as a learning environment open for everyone to share their own stories and experiences (Räty & Wikström 2017), and to stimulate their memories brought back by the taste of berries (Räty 2011). And lastly, the bingo game was used to have an activity which is inclusive for all kinds of learners and to examine how different skills of children are stimulated by different senses.

On the first session, we had window painting for additional forest-like atmosphere. Children were free to decide whether to use paint brush, sponge, or handprints to paint on 2 windows and I was there merely to provide assistance. We had to do the painting one by one because the windows were a bit high for children even when standing on a chair and for safety reasons. Some of them really liked playing with paints on their fingers and preferred to do finger painting. They discussed in the group who was holding the paints, which colour and who wanted to do it first. They divided the tasks by themselves. At the end, they managed to do a simple tree because the window was not easy to reach.

On the second session, we read a short story called *The Jungle Book* about the young boy who lived in the jungle with a family of wolves and his friends - a bear and a panther. They were all so quiet as they listened to the story when someone said that “we are now in the jungle reading a story.” When the story was finished, I handed the book over for them to see the pictures. The multisensory space made the story time more exciting and created a deeper connection of children to the story we were reading.

The third session was used for silent reading where the children could bring their favourite book or use the books at the daycare. Few of them shared their own books to close friends. Others preferred to use picture books from the daycare. Those who were done with the books had time to relax while listening to soft music we had on the background. During this session, active children calmed down and was more focused.

On the fourth session, we had sharing stories and forest experiences while eating lingonberries and blueberries. The idea of having blueberries came from the children in an earlier discussion. I added lingonberries to have a comparison in terms of taste and colour and as something to discuss in the session. I wanted to emphasize to the children using these examples that not all berries are sweet, and they have different colours and shapes. During the session, children liked the blueberries a lot as they shared their stories of picking blueberries in the forest with their parents and grandparents. Some of them liked lingonberries while others hesitated to taste it because they did not like the taste. They talked about different berries found in the forest and which ones they like and did not like. Children told their stories one by one about many things such as their cottage in the middle of the forest, a falling accident from a tree, a trip they had at the daycare to find insects, and an exciting trip to the forest with grandparents. Past memories and experiences were shared and came back in that moment (Räty 2011). Children were able to express their feelings from those stories and experiences whether they were nice ones or not.

The fifth session was time spent for bingo game. Children were asked to choose a friend to share the bingo card with and one without a pair could join in any of the pairs he/she would like to play with. There were three groups with one bingo card each group. They listened to the sound from the CD player and guessed which animal made the sound. When the correct answer was given, they placed the plastic marker on the card. The winner was the first group who marked all the animals on the card. The most interesting part of the game was listening and naming the animals. The children who had good listening skills and better focus were able to name the sounds correctly. Those who were good with pictures always put the markers first because they found the animal picture quickly. There were also children who could not sit still and kept moving to check other groups' bingo cards. At that moment two realization came, firstly, how suited was that kind of game for all kinds of learners - for those who learn by

listening, by looking, and for active children (Anall 2008). And secondly, though all the participants were of the same age, they had shown skills in different levels of mastery (May 2011).

### 5.3.2 Free activities for all children and staff

The second part of the multisensory experience was utilised for free activities both for the six-year-olds and for other children and staff to use the space for all kinds of activities including free play time. With the target group, they used the multisensory space freely everyday both as a place to rest and as a playroom. At this point, I was more of a silent observer or as an adult making sure that everything was fine. Some of the activities that children had chosen for themselves were painting on canvas, drawing, colouring, grilling play at the mini bonfire, manipulating soft animals, re-arranging the leaves on the wall, construction games, listening to music, and simple talking with friends. I was so curious how the children would utilise and explore on different materials in the space. The children were very cautious and even assisted and explained to smaller children to play carefully so their forest would not be destroyed. They were quite protective of what they believed belong to them (Petty 2016). Active children also slowed down, paying attention to different materials found in the multisensory space. Their attention span was longer than usual due to the new interesting environment that caught their curiosity.

As of the staff and other children's multisensory experience, the space was used for morning circle, music sessions and afternoon time for free play when children were mixed to have time not only to play with their closest friends but also to make new friends. Along with my colleague, we had also organised a 'Forest Olympic' for children under three years old using the forest-themed space. We divided the tasks, she took care of the sports activity and sports materials, and I was responsible for extending the multisensory forest to be connected to a bigger room next to it so we could use two rooms for the activity. The idea of the forest olympic was for the children to go for a lion hunt using the binoculars they made. They had to go through a lot of obstacles like jumping on plastic rocks, crossing through the river, and passing through spider webs with the song 'Where going on a lion hunt' at the background. At the end of the olympic activity, medals were given to the children for their participation.

After few weeks of using the space, I was supposed to do the final session with the six-year-olds to take down the materials and return the room to its original arrangement. However, the daycare staff wished to keep the multisensory space and asked if they could keep the materials for daycare use. For this reason, we skipped taking off the materials and used the last session for collecting feedback from children.

## 6 Feedback and evaluation

The multisensory space was built for over a week and used constantly at the daycare for a month. I spent the last session to gather feedback from the children. Teachers also agreed to give feedback and suggestions on how the method could be further used to fit in the daycare setting. Feedback is defined as a form of assessment structured pedagogically for learning and not of learning (Black et al. 2004, cited in McFadzien 2015), that fosters learners undertaking and learning experience (Black and William 2009, cited in McFadzien 2015). It effectively provides useful insights for improvement. It also aids educators to redesign learning tools as professionally and pedagogically as possible.

### 6.1 Feedback from children

I designed a feedback form (Appendix 3) easy to fill in by the children with the approval of the teachers at the daycare. The design was simple to make it suitable for non-readers and those who are starting to read. Using the form was complemented and supported with verbal instruction. The staff liked the idea because it gives the children more autonomy to respond and children will be able to indicate their responses about how they truly felt and thought of the experience they had with the multisensory space.

In the form, there were 3 simple questions written both in Finnish and English. Each question had corresponding choices represented by smileys: happy face, neutral face, sad face. Children expressed how they felt about the activity in general by colouring one of the smileys either happy face if 'yes, I liked it', neutral face if 'I do not know', or sad face if 'no, I did not like it'. The questions were read and explained one by one in both languages. Children's understanding of the feedback questions was crucial in the reliability of the results.

Feedback questions	Result
1. How did you feel about building the forest (multisensory space)? Miltä tuntui rakentaa metsä?	
2. Did you like the different sensory experience? (something to see, taste, touch, smell) Piditkö erilaisista aisti kokemuksista? (näkö, maku, tunto, kuulo, haju)	
3. Would you like to do it again? Haluaisitko tehdä uudestaan?	

Table 3. Children's responses to the feedback form.

The children responded positively on the feedback form (table 3). The first question was about their feelings when building the multisensory space. The second question focused on the multisensory experience upon exploring through different elements during guided activities and free activities. The third question was for the overall experience whether or not they would like to do it again. The overall result was positive as 7 out of 7 children responded happy faces for all three questions. Individually, every participant responded that the learning experience gained in taking part of the project was highly pleasant and interesting. When group experience is concerned, the project encouraged cooperation and social interaction as occurred naturally on the process. Positive learning experiences corresponded to the children's responses both in an individual and group level.

## 6.2 Feedback from daycare staff

Written feedback was collected from the daycare staff. I made a simple feedback form (Appendix 4) with a short description of the concept of multisensory space which was given to the teachers when the construction phase began. The purpose of the feedback form was for them to write any ideas, suggestions or reflections they could think of at any moment during the whole process. In this way, constructive thoughts will not be forgotten, and time constraints will be minimized. Giving feedback became flexible and was incorporated throughout the implementation process not only to get real-time feedback but also to enrich staff's involvement.

Staff's feedback was positive and suggestive. They noticed that children were excited and so eager to participate in the project. The chosen theme was also appreciated by the teachers and liked not only by the pre-schoolers but of all the children in different groups. One of the staff members pointed out that different sensory stimulating materials calmed active kids down which was visible to different groups of children when using the space. They have also expressed their excitement to try something new and do something different with children by making their ideas concrete. One of the teachers wrote and I quote,

This type of learning platform is in so many ways quite functional and creates in many levels feeling of success. It offers visual clues with for sure help children to immediately adapt into the new environment. Also, all the elements which offer hands-on learning to children give endless learning opportunities.

I do believe this project was welcomed and very enjoyed and liked in all the age groups & also something completely new to staff as well. This type of

multisensory space can surely be used in so many various learning platforms and will surely be used again in the future!

Some staff members gave suggestive feedback about other possibilities the method can be used in the future. One said that “the method can be further used in the daycare for example by using other themes that kids are interested in or even themes that are not so familiar to them so it can introduce it to the kids.” Children could be more hands-on in their learning by choosing the theme themselves and incorporate their own ideas into it. Another teacher mentioned that it could be used to create concrete representation of different themes and could encourage imaginary play with the children. To conclude, the overall result of the project from the point of view of the daycare staff was positively inclined to the method’s potential in addressing children’s learning needs and development. Through the project, the suitability of the method in a daycare setting seemed to be effective by making the learning process inclusive for children.

## 7 Conclusion and discussion

The primary goal of this thesis is to create a leaflet that contains a clear and simple description of the concept of multisensory method that fits in the daycare setting. The purpose is to support and guide the daycare staff on the preparation of essential elements when building the space. Having it in the form of a leaflet makes it handy and easy to use for the staff considering their busy schedule at the daycare. When the final copy of the leaflet was given, they truly appreciate that it was short and only important information was written. They liked that the content was focused on understanding the background and the idea of the method, significant impact, and essential elements when building the multisensory space. It means that the daycare staff and children can incorporate their own inputs and free to decide how their multisensory space would be like without complicated rules to follow. Furthermore, during the final presentation of this thesis, it was suggested by one of the supervising teachers that two pages more should be added to the leaflet to include the thesis activity. I really liked the idea because the project I did with the children can be used as an example for other teachers who were not so familiar with the method as well as to inspire other staff from other units who are interested to use the method. As a result, I created two additional pages for the leaflet which contains a short description of the planning, gathering of materials, building the multisensory space, the elements present in it, how the space was used and the significant result of the project (Appendix 1).

The theoretical background of this thesis includes relevant literature and previously established studies where the whole project is built upon. When writing this part, I used numerous sources such as academic articles, books, e-books, journals and official websites of organisations in

question. I made sure that the literatures used in this study were valid and reliable by taking trusted sources only.

Every step taken during the implementation of the project was for the best interest of the children (Ombudsman for Children in Finland 2014; Finnish National Agency for Education 2019). Children's perspectives were taken into consideration. For example, I always asked their opinions and thoughts about every activity, listened to their wishes, considered their interests, included their suggestions in every possible way and respected their decisions whether they wanted to participate or not. It was made sure that their voices were heard, and they were given age-appropriate and development-appropriate activities necessary for their holistic growth (Finnish National Agency for Education 2019).

Building the multisensory space with the children gave them an active role and autonomy in the process of their own learning. In early childhood education, participation has been the underlying principle of children's development, learning and wellbeing (Finnish National Agency for Education 2019). The development of skills necessary for children's future is strengthened when participation and involvement are optimized. For instance, traditional learning practice where children's role as passive observers were redirected to a new method of learning where children are encouraged to take an active role, a wide range of learning opportunities are within their reach and undeveloped skills are supported while previously mastered sets of skills constantly enhanced. I came to an assumption that children's involvement and participation in building the multisensory space would be an effective starting point to establish a deeper connection of children to the learning environment they created themselves. According to Rätty (2014), learners' participation and experience in the process of building the multisensory space together with other learners is even more important than the ready-made learning environment itself.

The multisensory experiences children and staff acquired during guided activities, free activities and free play time offered a wide range of learning resource supported with the physical learning environment that has positive impact on the learning outcome (Kerola 2001). Shams and Seitz (2008) believed that different parts of the brain are activated when two or more senses are involved in learning. Luojus (2001) concurred by quantifying the memory retained in the brain in terms of percentage, when multisensory approach is used in the learning process. The outcome of the project brought us the realization that children learn better in a place pedagogically arranged to stimulate learning using materials that activates all the senses. The impact is very positive and inclusive.

The method was used constantly for a month after the building was completed for over a week of working with children. Based on the result of the project and the feedback given by the children and staff, a conclusion was made that the method offers endless learning opportunities

for children and found to be an effective educational tool for teachers to design pedagogical activities which are age-appropriate and development-appropriate. The working life partner has also recognised the method's promising future at the daycare. The teachers and I concluded that the method has effectively increased participation and involvement of children by re-inventing a dynamic learning environment that supports diverse kind of learners. The project done with the children also corresponds to the daycare's own curriculum which is hands-on learning.

## 8 Future perspectives and reflections

When it comes to personal learning experience and personal growth that I acquired during the implementation process, the outcome was very positive and productive. I learned to plan and design a child-focused learning environment for children in a daycare setting using the multisensory method. The project also taught me to use purposeful reflection and critical thinking to justify every choices and decisions I made. The experience I gained in organising and carrying out a research-based project was not easy, yet the result was very rewarding. Through the project, I learned to recognise my weaknesses and use my strengths to reach my goals. My knowledge of the early childhood education in Finland and my understanding on children's physical and motor, socio-emotional, language and communication and cognitive development significantly improved. These are essential in my future endeavour and professional identity when working with children. The challenges and success I experienced has increased my professional growth in the field of early childhood education and working with children.

In this project, one of the personal challenges I faced was my own fear of making mistakes. I have always been considering the pros and cons of every decision I made which often results to overthinking and delays. Another challenge for me was being so critical when it comes to quality of my project. I need to learn to set my limits. In addition, I have been thinking about the timetable which is 20 minutes per session. It sounds very short and hectic. However, I did not see it as a challenge. Instead, I focused on changing my own approach on using the time without stressing the children. I wanted the children to enjoy while learning with every minute of the experience. As far as the working life partner is concerned, I never had any problems at all. They were all very professional and supportive in everything I needed in the project. They have treated everyone at the daycare with respect and professionalism.

Concerning success, the daycare staff felt impressed with the result of the project. Recently, my permission was asked by the working life partner for them to use and make copies of the leaflet, which is the final product, for future possibilities of adopting the method in other daycare units. They have received very nice feedbacks from visitors who have seen the multisensory space according to one of the teachers.

Personally, I felt satisfied with the outcome of the project. It was really fun, exciting and such an empowering experience that I would for sure want to pursue even further. That being said, I believe that I was able to organise pedagogical activities that promote and support the holistic growth of children through active involvement and deeper participation in the learning process. Besides, a learning environment that supports their wellbeing as influenced by the relaxing and calming ambiance of the space was evidently effective in improving children's concentration and longer attention span. Through the elements present in the space, different ways of learning were offered and reinforced making the learning environment inclusive for all kinds of learners. And finally, the thesis activity was directed towards creating a child-focused and child-friendly environment conducive for learning.

From the point of view of the staff, the method can be used to introduce a new topic that children are not familiar with as a way of promoting awareness in the future. Another possibility is building the multisensory space where children choose the theme or topic and decide the materials they like for each element. In my standpoint, it would be interesting to see how the method could be used for smaller children whose fine and gross motor skills along with other necessary skills are still in the process of development. It would also be interesting to use the method to children who needs extraordinary care. The method's capacity to fit to all kinds of learners and themes clearly shows that it has a lot to offer for future researchers to work on.

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Source: <http://www.seattleschild.com/The-Wonder-of-Learning/>

## A Simple Guide by Joy Ann Enguito

# THE MULTISENSORY SPACE METHOD

## WHAT IS IT?

Multisensory space is an easily modified space where all the senses are activated by different elements. The space can be changed easily along with the elements present in the space to fit in different themes and projects, and to serve different purposes. It means that it can be easily customized to suit for all kinds of learners.

(Räty and Wikström 2017)

## TO WHOM?

This leaflet is intended for daycare use to guide the staff members on how to build a multisensory space to support children's needs and provide a whole new level of learning platform. It is created primarily to promote the multisensory space method as a teaching tool suitable for daycare settings.

For more information visit:

<https://aistienmenetelma.net/en/the-multisensory-space-method/space/>

# WHAT DO YOU NEED TO KNOW?

## FACTS ABOUT THE METHOD

### Background:

- 2007-2008: The method began in Laurea University of Applied Sciences as part of student's project participated by local and international students to create a place for multicultural awareness and was used in the first multisensory event called "Welcome to South America."
- 2009-2010: Developed into another project "Encounters in Multisensory Space that received partial funding from European Fund for the Integration of Third-country Nationals.
- 2011-2015: Advanced further in a project "With All Senses - Developing Open Learning Environment" in cooperation of Laurea AMK and six national partners - The Provincial Museum of Lapland, Heinola Adult Education, Hämeen Kylät ry, City of Vantaa, Päivälehti Museum and Metropolia AMK, and was funded by the European Social Fund.
- 2017-2019: Currently used in the project "Building Skills and Communities Together" that aims to strengthen integration. A multisensory space is also used as a classroom for lectures and other activities in Laurea Tikkurila.

(Räty and Wikström 2017.)

### As a Method:

The whole concept was based on the work of Minttu Räty, lecturer and project manager in Laurea University of Applied Sciences who has been working on different projects and actively engaged in the development of the method since 2007 up to the present along with other lecturers, students, and other cooperating partners. The method is described as an open learning environment. It offers people an opportunity to work together, get involved, to relax, to participate, to learn as an individual and as a group in a safe and friendly environment. Space is an integral part of the method. It is a place where different sensory-stimulating materials are put together with the learners as active participants to enhance not only the learning experience but the process of learning as well.

(Räty and Wikström 2017.)

### Significant Impact:

Multisensory approach to learning according to Baines (2008) maximizes learners' engagement and promotes in depth participation at the same time an interesting and fun learning experience. One of the most important benefits of multisensory approach is that learners can potentially involve fully and actively in the learning experience which supports diverse learners. There is a great deal of improvement in the learning outcome when all the senses are activated and involved in the process. It is believed that if you hear, the memory remains 20%; if you see, the memory remains 30%; if you can both hear and see, the memory remains 50%; additionally, if allowed to speak, the memory remains 70%, and raises to 90% if allowed to do yourself. (Luojus 2011, 7.)

Furthermore, based on the result of the activity I conducted with young children at the daycare, it is safe to conclude that using the method as an educational tool in creating both learner friendly and learning friendly environment has made positive impact on the quality of learning experience children gained.

### Building a multisensory space:

A multisensory space can be built as permanent set up like in libraries and classrooms for long term use, or temporary/mobile version for a specific theme and purpose in a short period of time. When building the multisensory space, it is important to make sure that all senses are given attention using sensory stimulating elements. It means that in the space there should be:

- something to see (colourful fabrics, pictures, light effects and projected images with the use of technology and other visual effects),
- something to touch (textiles made from different materials with different texture),
- something to hear (music that suits to the theme, musical instruments, sound of nature, and other sounds appropriate to the space),
- something to smell (desirable odours from foods, spices, perfumes and fragrant objects), and
- something to taste (food and drinks).

(Aistien Menetelmä 2018.)

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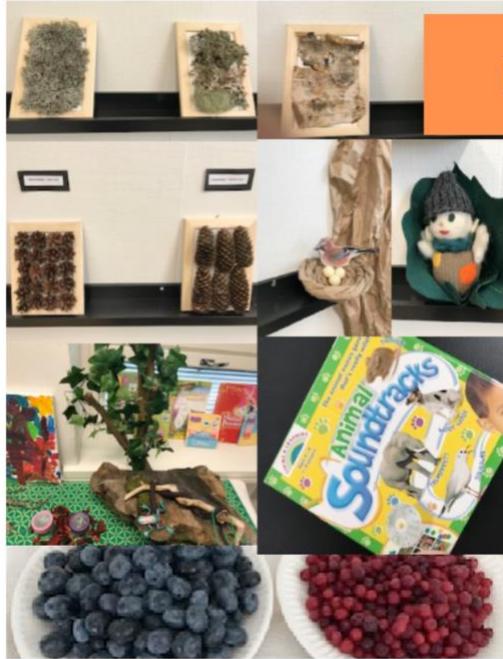
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## ELEMENTS PRESENT

*The space can be built in various ways, however, elements that stimulate the five senses must be present. For something to see, we had magnifying glass for examining the rubber animals and magnifying container with plastic insects in addition to other visual materials. For something to touch, we had 3D tree with real-like texture, bird's nest, soft toys, dried lichens, barks of birch and pine trees, and cones of pine and spruce attached to the frames. For something to hear, we listened to stories shared by children in one of the sessions, relaxing music from the sound of nature, and sounds of different animals when playing bingo game. For something to smell, there were dried leaves with forest fruit fragrance and pine essence. For something to taste, we had lingonberries and blueberries.*

## USING THE MULTISENSORY SPACE

*In order to examine how the sensory stimulating materials in the learning environment can affect children's thoughts, behaviours, feelings and learning experience, the multisensory space was utilised during guided activity sessions with the six-year-olds. Further, staff and smaller children were also given the opportunity to use it during free activities and free play time. The purpose was to expand the impact of the method and enrich the involvement of the staff and other children for the new learning experience.*



## SIGNIFICANT RESULT



*The outcome of the project:*

- *Children's involvement was maximized.*
- *The richness of the materials present in the space has shown positive effects on children for example, active kids calmed down, their concentration was improved and their attention span was longer than usual.*
- *The multisensory space became a place for supportive social interaction, cooperation, and deeper participation.*
- *The overall result was very positive from the point of view of the children and staff.*

#### Information to Parents

I am Joy Ann Enguito, a student of Laurea University of Applied Sciences aiming for early childhood education teacher's qualification and I'm also a member of the daycare staffs working with the mini's group. I am conducting a research activity for my thesis on promoting the use of multisensory space method in the daycare composed of multisensory elements: something to see, smell, hear, taste, and touch. The multisensory space has the theme of forest where children in the preschool group will be welcomed to participate in the project. The whole project is consist of 4 stages: building the space, the multisensory experience, collecting feedback, and taking off the space. Children's personal information will not be used in any part of the research process and their identities will remain anonymous. Feedback will be collected from children using the feedback form which will be given at the end of the activity complemented with verbal instructions. Children will be asked to respond using smileys (sad face, neutral face, happy face) representing their multisensory experiences in different activities involved in the project. The estimated timetable for the project is 6 to 8 weeks for the month of May and June 2019. Children's participation is completely voluntary.

Sincerely,



Joy Ann Enguito

## Feedback Form

1. How did you feel about building the forest (multisensory space)?

Miltä tuntui rakentaa metsä?



Yes, I liked it



I do not know



No, I did not like it

2. Did you like the different sensory experience?

(see, taste, touch, hear, smell)

Piditkö erilaisista aisti kokemuksista?

(näkö, maku, tunto, kuulo, haju)



Yes, I liked it



I do not know



No, I did not like it

3. Would you like to do it again?

Haluaisitko tehdä uudestaan?



Yes



I do not know



No

