

## Active Learning

Making contact by playing and discovering the world.

A method for children and adults with PIMD and visual disabilities, and their support networks.

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## Workbook

“Since I am unable to come to the room, the room must come to me.”  
(Lilli Nielsen, 1992)



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# Introduction

Having something to do – playing, working, playing sports, making music – is pleasant and beneficial for everyone. These activities bring people in contact with the world around them and they experience that they can influence it. This makes people aware of their possibilities – they are in control of their own lives.

However, not everyone is able to do things independently. People with PIMD and visual disabilities are often not able to go exploring on their own. Their inadequate vision makes the world around them inaccessible or uninteresting to explore.

At Visio, we successfully use Dr Nielsen's Active Learning method with children and adults for whom making contact is not a given. We bring the world closer to the client and make it more attractive, making it as easy as possible for them to make contact. When a client makes contact, they receive sensory feedback on their actions, and they learn something about the world around them.

Dr Nielsen developed a number of specific materials to further stimulate contact. We have found that in practice, Active Learning provides many practical tools for participants with limited possibilities and who show little initiative. Some participants develop self-injurious behaviour or increasingly withdraw into themselves. Active Learning seeks to provide a suitable range of activities

and is sometimes able to mitigate harmful behaviour.

This book wants to highlight Active Learning and make it accessible to anyone who works with children or adults with PIMD and visual disabilities. To stress the active role of the adult or child in question, we will refer to them as 'participants' in this book. Through play, the participant will make contact in a more active way and will discover the world around them. They thus learn to recognize and explore their ability to change things in their own world.

This workbook focuses on:

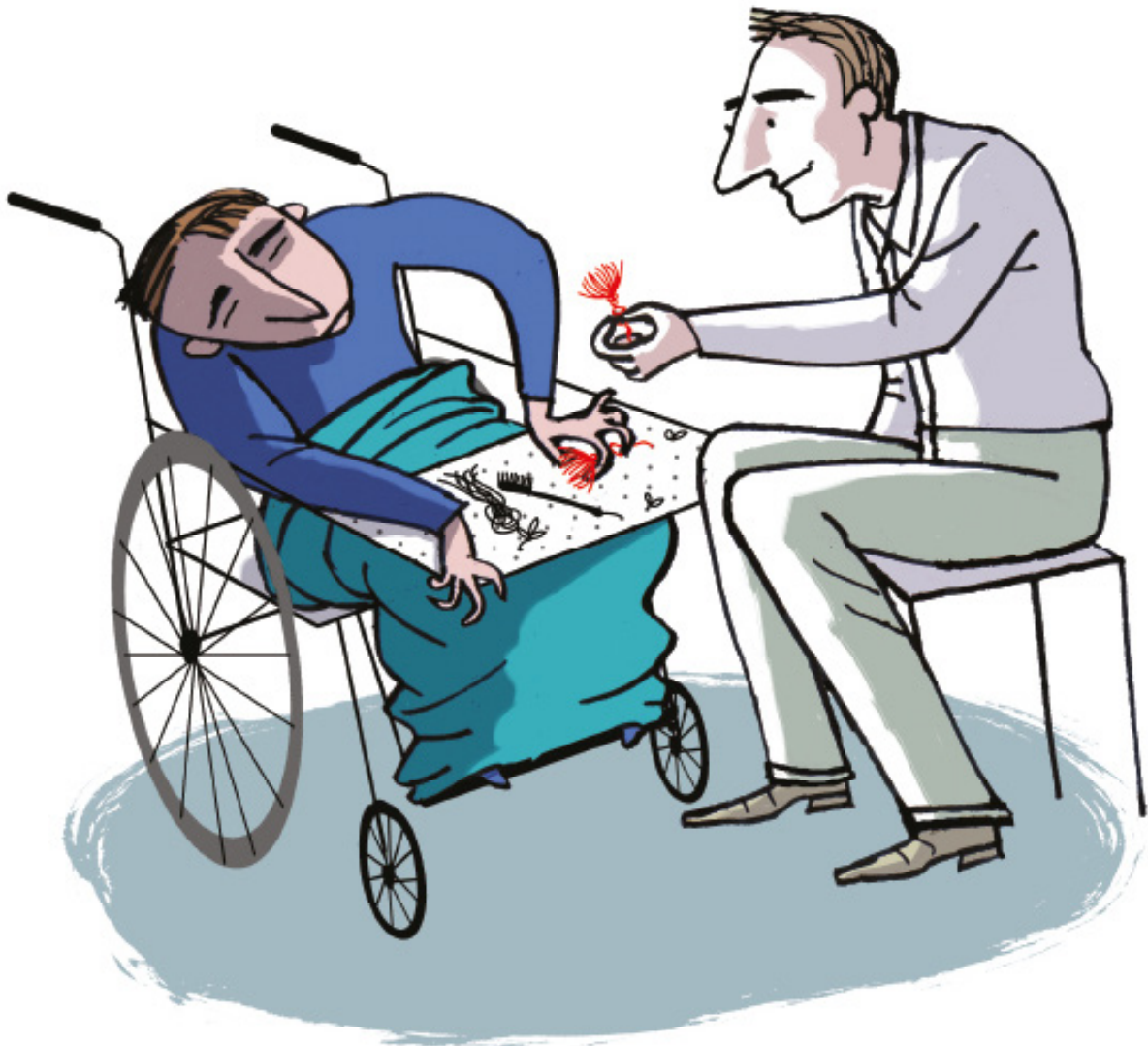
- the participant's possibilities;
- the role of parents, caregivers, and or the support network;
- adjustments to the participant's physical surroundings.

We sincerely hope that you will enjoy this book and that it will inspire you!

## **The Project Group Active Learning:**

Anouk Dirkse, Marja Knecht, Linda van Oevelen, Tineke Ploeg, Martien Rienstra and Wendy Timmermans.

# Background



## 1.1 Lilli Nielsen

Active Learning was developed by Dr Lilli Nielsen (1926-2013). She was born into a family of seven children, four of whom were blind. From the age of 7, she cared intensively for her younger blind brother. That experience inspired her to work with visually impaired children.

Through her work at Refsnaesskolen, National Institute for Blind and Partially Sighted Children and Youth in Denmark, she discovered how difficult it was for these children to make contact with their environment. Many children were introverted and learned little about their own potential. In addition, they did not learn much about their immediate surroundings, and they received little feedback on their actions and movements.

Later in her career, Dr Nielsen came in contact with visually impaired children with additional disabilities. It was evident that it was even harder for these children to make contact with their immediate surroundings.

Dr Nielsen developed a method that specifically focuses on making physical contact with the environment. She described how children with PIMD and visual disabilities develop. She explained that, at an early age, the development of their self-image and initiative is not quite automatic. This is caused in part by

their disabilities, but also by an environment that does not adequately stimulate them. Dr Nielsen wrote a number of books on this subject, and she conducted research on the effect of the Little Room (a kind of small activity room purpose-built for Active Learning). Additionally, she gave lectures all over the world. Her motto was, "Since I am unable to come to the room, the room must come to me"<sup>1</sup> Today, Active Learning is being used across the globe with children and adults with PIMD and visual disabilities.

For more information, please visit [www.activelearningspace.org](http://www.activelearningspace.org)



Dr. L. Nielsen

## 1.2 Active Learning

Active Learning is a treatment method for participants with PIMD and visual disabilities who make little physical contact with their surroundings. Most of these people have few options for employing activities by themselves. In addition, due to their visual impairment, they receive few incentives to act.

Active Learning focusses on the participant themselves, their network (parents, caregivers at residential or day care groups, therapists), and the physical surroundings (playing area, safety bed, wheelchair, etc.). The surroundings are designed to be as stimulating as possible to the participant, based on their capabilities and sensory preferences. Interaction between caregiver and participant focuses on the participant's initiative and on providing optimal feedback on their actions.

The five key points of Active Learning ([www.activelearningspace.org](http://www.activelearningspace.org)):

- **Active participation of the participant:** leave the initiative to the participant; participants receive more feedback and sensory information from actions they initiated themselves.
- **Repetition of Opportunities:** Practice makes perfect! It takes a lot of time and repetition for participants to learn from their experiences.
- **Monitor development:** carefully consider what the next step in the participant's development

could be, and take special care too take small steps.

- **Motivate the participant:** find the right learning pathway, and keep emotional development and functional capabilities in mind. Frequently change objects, for the participant cannot do this by themselves, and new objects will stimulate their initiative to explore.
- **Limit sensory input:** take care to limit distractions, and ensure that the objects you are offering do not overstimulate the participant, while also making sure there is enough to experience.

## 1.3 Practical examples

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**Ahmed** is introverted and does not make physical contact with the world around him. Sometimes he rubs his sweater. We put an activity vest over his clothes onto which three different objects were attached: crinkle foil, a Christmas garland, and a scarf. Ahmed now occasionally comes into contact with one of these objects and then briefly examines them.

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**Lion** has a severe motor impairment; he can only partially use his right foot for coordinated movements. We put a U-shaped body pillow around his head and shoulders to provide him with firm support. This position allows him to touch and move the fluorescent mirror carousel next to his right foot. Each time he



repeats the movement, he receives feedback from the sound he generates and from touching the carousel. He clearly enjoys the activity, and his movements become more and more coordinated and purposeful.

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**We put Esmee** in the Little Room, and we hung a shell cord close to her right hand. At first, she accidentally touched the cord, and she was surprised by the sounds she heard. After this had happened a few times, she started looking for the shell cord, and she started making increasingly more active contact with it. Her smile is a telltale sign of how much she enjoys this activity. The enclosed nature of the Little Room makes it much easier to hear the sounds you generate.

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**Jasper** makes little contact with objects; however, buttons and zip fasteners do captivate him. At those times at the day care group when he has to wait (we call these 'idle moments'), we always give him a box filled with buttons and zip fasteners. Not only do the contents of the box stimulate him to briefly touch the objects, but also to carefully manipulate them.

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## 1.4 The target group

Participants with PIMD and visual disabilities are the focus of this workbook; they have a developmental age between 0 and 24 months. They often experience difficulties with regard to moving about independently and with reaching for and grasping objects. Due to their visual disability, participants see blurred or not at all, have a limited field of view, and or do not always understand what they are seeing. Consequently, the participant's options for contact and communication, as well as for playing and self-reliance, are limited. Sometimes, a participant is able to explore

objects; however, meaningful actions somehow do not come off the ground. These are some examples we have seen in daily practice:

Eline regularly rubs her hand over her sweater. When we offer her an object, she rejects it, or only briefly makes contact with it.

Thomas makes endless fluttering movements with his left hand. We put him in his wheelchair under a play arch. While fluttering, he accidentally touches a jingle ball; that startles him, and he looks for a position in which he can avoid the ball and continues fluttering.

Kahlid barely moves his hands; they often lie motionless on the tray of his wheelchair. When someone touches his hands, or places an object in them, he withdraws.

Mats can push objects off the tray of his wheelchair – it is a game he really enjoys. At the day care group, there is seldom enough time to play this game with him. Consequently, he often sits in his wheelchair, listening and trying to see what goes on around him.

The wide range of disabilities makes it difficult to make physical contact with the immediate surroundings – the surroundings are insufficiently visible and stimulating, it takes too much motor effort to examine them, or the surroundings are not accessible.

### 1.5 Support techniques

Caregivers often tend to perform actions with, or take over actions from, participants with



PIMD and visual disabilities. This way, they are deprived of a significant part of the action's input. By focusing on what is possible and by facilitating participant's own actions, they learn to discover the world around them. You can accomplish this by using the various support techniques from Active Learning – those suited to the participant's emotional developmental age.

- **Offering:** this technique is all about the participant. It is the caregiver's job to be in the vicinity of the participant and to play with playing materials, and to wait for the participant to make contact with them or with the materials. Using this technique, participants who make little to no contact with objects in their immediate surroundings can be triggered to actually make contact. When utilising this technique, the caregiver should absolutely not call upon the functional skills of the participant. Instead, it should be all about the participant themselves and their intention to make contact with the caregiver or the objects. If the participant initiates contact, it is important to respond as if it were normal for them to do so. Excessively praising the participant might make them reluctant to show initiative again in the future.

The offering phase also focuses on identifying the participant's likes and dislikes, their reactions to sounds in their environment, the way they initiate contact, and what initiatives

they employ. If the participant withdraws, this too should be respected, for that is also a way of taking initiative.

Some participants are mainly focused on physical contact with other people, often matching their emotional level. As a caregiver, it is important to participate in this contact, but afterward you should return to the playing materials.

- **Imitation:** These techniques are intended to increase the participant's interest in activities nearby and to strengthen their ability to take initiative. Imitation can be encouraged by demonstrating an action (accompanied by sound) and, subsequently, performing the action together with the participant – for example, crumpling paper into a ball, or banging two blocks together.

When working with visually impaired participants, it is important to explain what you are doing; you can explain using entire sentences or just key words – for most participants, the latter are often easier to understand. So do not say 'here it is, take it', but instead say 'for you', or 'take it.' Additionally, it is important that everyone around the participant expresses things in the same way.

The sounds a participant makes are often unrelated to the world around them; they mainly use their own bodies to generate

sounds, such as clapping, teeth grinding or babbling. For us, this can come across as stereotyped behaviour. A participant can learn to link actions of an adult to the sounds that those actions make. The participant can learn this by making sounds with certain objects, registering them, and recognizing them when they are made by someone else.

- **Interaction** this phase is all about doing things together – jointly shining a torch through a darkened room, jointly pressing a piano key, or push-and-shove games that emphasize ‘me-you’. This phase is characterised by more interactive games in which caregiver and participant take turns. In verbal contact, the words ‘you’ and ‘I’ are used more frequently – for example, ‘I’m drinking from my cup’, ‘you’re drinking from your cup’; ‘I’m putting on my coat’, ‘you’re putting on your coat’.

A call on cooperation is made at this stage: ‘you can help me.’ A participant can ‘help’ by holding their hands close to the action, allowing them to follow certain movements. This requires that the actions are slow-paced and repeated multiple times. Make sure that the participant can always take the initiative whether or not to participate. Again, the participant’s level of emotional development, motor abilities and personal preferences determine the choice of objects.

It should always be respected if the participant withdraws at this stage, and the caregiver

should then return to a previous phase – offering or imitation.

**Sharing the work:** a base of emotional stability is required for this phase. At this point, the

- participant is open to learn about dependence and independence in relation to others. At this stage, an appeal is made on the interest of the participant to engage in new activities.

Daily actions are split into parts and are divided between the participant and the adult. Sharing the work could look like this: ‘I’ll put some porridge on your spoon, and you put the spoon in your mouth’; ‘I’ll put the marble in the cup, you pick it up.’ If the participant does not want to carry out the action, the adult should revert back to the previous phase and perform the action part together with the participant. It can sometimes take a few minutes before the participant carries out their part of the action. Perhaps a participant will learn to independently carry out more and more parts of an action, and by doing so, ultimately learn to complete the entire action on their own.

Again, the participant should be respected, and they should be given plenty of room to employ their own initiative.

**Consequence:** at this phase, the participant gets prepared for the demands that will be

- made upon them in the future. The participant learns to trust themselves and in so doing lays

the foundation for making decisions about their own life. This stage starts around emotional age of two years. Through verbal communication, the participant is taught that actions have consequences, and that one follows the other; for example 'if you want to drink, you must first put your cup on the table'; 'if you want a bedtime story, you have to brush your teeth first'; 'if you want to play with the piano, you first have to go to the playing corner.'

If the participant is able to meet requests more and more, they may also show more attention and or affection. For some participants, it can be a true revelation when they find they can carry out a request. If the participant becomes more familiar with this concept, they will be able to act increasingly independently. Because they have become emotionally more stable, they will be better able to deal with far-reaching changes in their life.





# Discovery



## 2.1 What, why, where and how?

Well begun is half done! That phrase also applies when you start with Active Learning. Once enough data has been collected about a participant by the team, suitable activities can be properly worked out. We call the process of collecting data about a participant the 'discovery phase'.

The discovery phase consists of the following elements:

- In-depth review of the participant's records – what are the results of the functional vision assessment, and what visual possibilities are there?
- An observation of the participant's capacity to make contact – initiative, sensory preferences, motor capabilities, and visual behaviour.
- An observation of how the participant makes physical contact with their immediate surroundings – objects, materials, and people.

The treatment goals and working method are worked out based on the discovery phase – which support techniques will you choose, and what materials are you going to use?

## 2.2 Team discussion of care needs

The very first step is to jointly discuss the care needs of the participant:

- Does the participant exhibit problem behaviour or self-injurious behaviour?
- Does this participant tend to get overlooked because they often stay in the background?
- Are there often moments when the participant has nothing to do (idle moments)?
- Are the parents or the team prepared to make structural changes in order to provide the participant with a tailored range of activities?

We call this creating support. If the people involved jointly identify the possibilities and limitations of the participant and the existing activities, they can work together to create a plan. This way, agreements can be made about the implementation and distribution of the various tasks. Additionally, you can encourage each other and share positive results.

## 2.3 Observation/observation form

It is important to know what a participant is capable of before providing an activity. It should also be clear which options there are in the immediate surroundings – where can a playing area be created; where can objects be fixed? The first step to identifying these things is to fill in the observation form (see appendix).

It is a good idea to involve parents and or others from the support network in this process. Based on their knowledge of the participant, they can answer and give details on many points of the observation form.

When making a support plan, you can incorporate the most relevant information from the observation form.

Participant specific information is important in Active Learning:

- **Motor skills:** which movements can the participant make?
- **Sensory perception:** what information is received by the participant?
- **Alertness:** at what times of day is the participant usually active?
- **Responsiveness to stimuli:** how much stimuli can the participant handle?
- **Emotional development:** at what level does the participant interact with others?
- **Initiative:** does the participant initiate contact?
- **Materials:** what materials are present and which spaces can be used?
- **Idle moments:** when does the participant have something to do, and when do they not?

All these points will be addressed when you discuss the observation form together. When there is no immediate answer to a specific point on the observation form, that specific point can be observed later together with parents and or others involved.

### 2.4 Support plan

Following the observation, a support plan is drawn up together with parents and or others involved. The purpose is to jointly write out care needs and goals – what would you like to achieve through Active Learning? It is constructive to express expectations in order to have the understanding that you are working together toward the same goals.

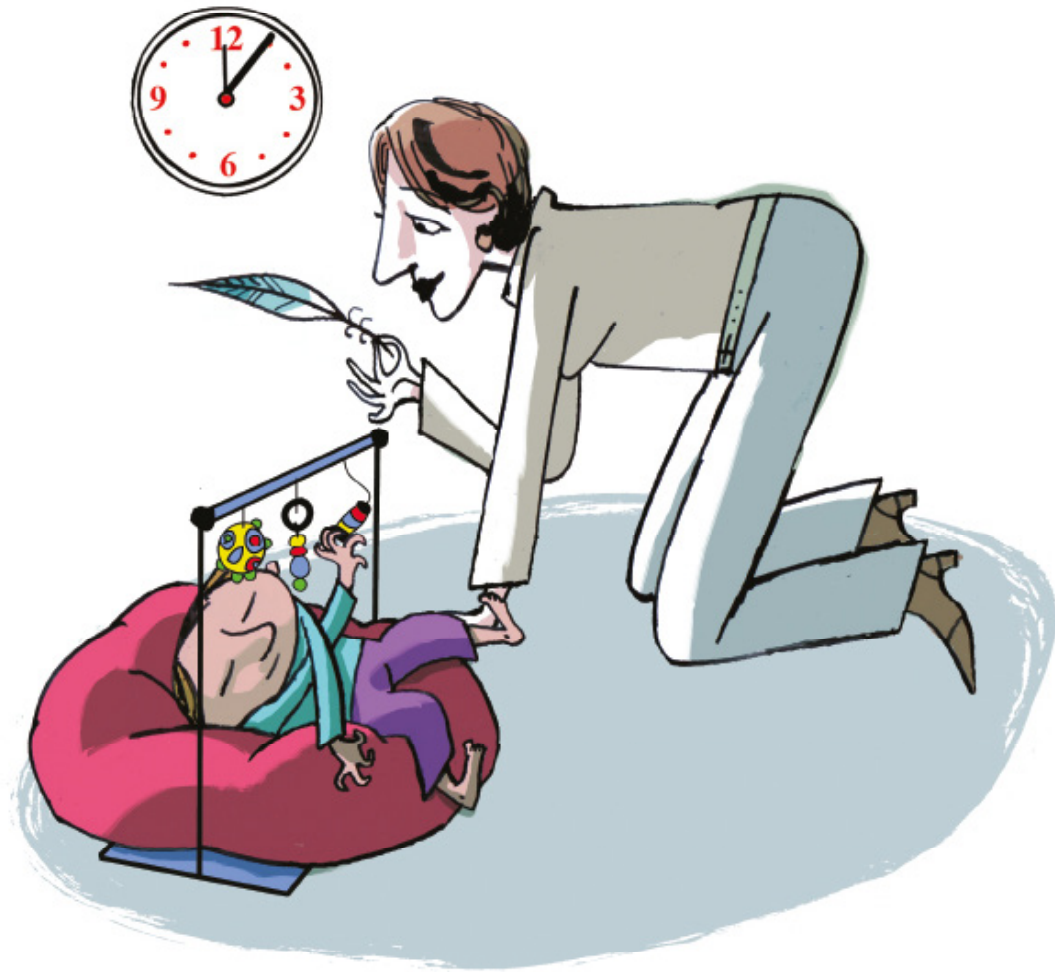
Do not set goals that are too ambitious! If you do have a bigger goal in mind, break it down into smaller steps. This way, results will be visible sooner, and if goals are not reached, it can be discerned where adjustments are required.

Select activities for the support plan that suit the participant and the goals based on the observation form. Describe how you are going to offer this activity – at which playing area, at what time of day, and utilising which materials. Additionally, explain which support technique is to be used. When you clearly describe these points, you can ensure a steady range of suitable activities over a longer period of time without it being dependent on certain caregivers. Also make sure to explain which points should be addressed by caregivers at handover, allowing the smooth implementation of small adjustments and enabling everyone to keep abreast of progress.





# Getting started with Active Learning



### 3.1 Specific materials

Now that the support plan is finished, we can get started! Active Learning uses various specific materials, which will be discussed in this chapter. We will describe to what ends these materials can be used, what effects you can expect, and to which attitudes of the participant they are suited.

These are the characteristics of specific materials:

- Boundaries are well-defined, can always be felt and are closeby.
- Minimal actions yield maximal feedback.
- Objects are fixed in place and thus always remain within the participant's perception.
- The participant is encouraged to explore because they are provided with various incentives to do so. Changing objects is easy.
- There are endless opportunities for repetition.
- The participant can set the pace.

Perhaps these materials are not available to everyone; we therefore will provide a description of how to make them yourself. Needless to say, everyone is free to use their creativity and come up with variations. However, make sure to always keep the safety of the participant in mind.

Specific materials are always used in combination with sensory objects, which are

fastened to the materials. This way, we can ensure that the objects are always close to the participant. Objects cannot suddenly disappear because they are fixed in place or their range of movement is limited.

To help you choose the right objects to use in combination with the specific materials, we refer to the list later in this book; that list contains multiple examples that correspond to the various sensory perceptions. Again, everyone is free to use different objects, but always keep an eye on the participant's safety.

Everyday objects are used frequently with Active Learning. Many utensils are unfamiliar to partially sighted or blind participants with an intellectual disability – often, they have never before seen or perceived these objects.

When they are first offered these objects, most participant's have never before had the chance to examine any of these utensils in all their facets. It can be very helpful to have held the cup from which you have to drink in your hands, to have felt its shape, to have experienced what material it is made of, and to be able to recognize its sounds – for example, what it sounds like when a teaspoon is stirred in the cup.

When participants are offered these materials during Active Learning, they gain valuable experiences that they can use later when they



are actually going to use these objects. Plastic toy models of such objects do not correspond to reality in sound, tactile experience, etc., so try to avoid using those.

If participants use a utensil as a referrer in communication, it is good to pay attention to differences in color or shape. You can avoid confusion by making a distinction between the cup that is used for drinking and the cup that is used for playing.

### 3.2 Ready, set ...

#### **The participant**

- Find out what objects the participant is interested in – the observation form can help you to choose the right objects.
- Limit the duration of the activity (5 minutes).
- Make sure the participant is at ease, has a clean nappy, and is not hungry or thirsty.
- Offer the activity and observe how long the participant stays interested. Sometimes, a participant needs some time to get used to a new activity, and maybe next time, you will get a response.

#### **The physical environment**

- Create a playing area in which the participant can move about freely.
- Provide a safe playing area: are the objects fixed securely, are materials safe from falling over, are there no sharp edges or corners?
- Adjust the environment: sufficient lighting, not too many outside sound stimuli. Small adjustments, closing a door for instance, can have significant positive effects.
- Make sure there is enough contrast between the objects and the background.

### The network

- Select the right support technique that fits the participant's development level.
- Choose a suitable time to offer the activity, and then determine how many times per week you can offer the activity – for example, four times per week during a morning because those are quiet moments.
- Agree with each other how many weeks to offer the activity, and report your findings.
- Build the activity. The participant will start to recognize things through repetition, and their reactions will probably become stronger and will become more frequent.
- Only offer activities when the participant is well-rested and is sufficiently alert. In the beginning it is important to watch, and you can verbally support and stimulate the participant's actions.
- Be mindful of overstimulation – in that case, immediately remove certain objects. Overstimulation could be caused by stimulation of one specific sense.
- Watch for signals from the participant – if the participant clearly indicates that they no longer enjoy the activity, it should be stopped.
- Keep an eye on whether the participant continues to be interested in the objects; you can provide new ones if necessary.

On top of that, a healthy dose of creativity and intuition are important qualities when supporting a participant – especially when it comes to interaction with the participant and creating a suitable playing area.



# Materials and objects



## 4.1 Play board

A play board is a board with holes through which various objects can be attached. Objects can be attached with pieces of string or elastic cord, creating a different effect when they are released. The board can be hung on a wall or fixed to a play tray. The size of the board can vary depending on the intended use. The board must be made of such a material as to create resonance when objects are picked up and dropped back onto it. As with other specific materials, the participant only needs to make slight movements to receive feedback.

Play boards are mainly used when the Little Room is too small for the participant, the participant cannot interact when lying on their back, or if they do not like being in the Little Room.



Objects on the play board can be examined with either hands or feet. Unlike the Little Room, a play board therefore requires more directed motor skills from the participant, and the scope of those skills has to be narrower. A play board can be a great tool for participants who are easily overstimulated. Objects can be attached through the holes and secured with clothes pegs or key rings, so that they are easy to change.

### Alternatives:

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#### Wall hooks

A row of hooks – like a miniature coatrack – can be used to fix objects to a wall. However, this requires a wall that provides sufficient resonance.

#### Bar on top of wheelchair tray

If a bar is mounted over a play tray, objects can be hung from it; these will then make the play tray resonate, creating the same effect.

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### 4.2 Little Room

The Little Room is a play pen with closed sides and top. All kinds of objects can be fixed onto the sides and top with strings or elastic cords. Depending on the choice for either string or elastic cord, interaction with the objects will yield different experiences. Various senses are stimulated through sounds, visual effects of movements, and the different tactile sensations. The different

positions of the objects also stimulate spacial awareness. Owing to the relatively small size and enclosed space of the Little Room, even slight movements will result in feedback, and sounds will be amplified. These effects can be increased even further when the Little Room is placed on a resonance board – we will discuss the resonance board later in this chapter.

Consequently, the participant in the Little Room will experience feedback with every movement



they make, regardless of how big or small the movements.

Most participants are comfortable when lying on their back. Make sure that there is no direct light from lamps or other light sources shining into the participant's eyes. If a participant can only lie on their side, the positioning of objects should be adjusted to this position. It is most comfortable for the participant if you have them lie down first, and then carefully tilt the Little Room over them. Take care that no objects hit the participant's face. If you do not obstruct the view through the top of the Little Room, you can track the participant's movements. You should be on your guard for possible overstimulation of the participant because they



cannot withdraw from the Little Room. There are holes in the top of the Little Room through which objects can be attached.

The rope or elastic cord can be fixed with a clothes peg or key ring; this makes changing the objects very easy.

At the end of this chapter, we will provide examples of objects you can use. Try to use objects that stimulate different senses. Some participants benefit when objects are changed regularly, while others benefit when they can experience the same objects for longer periods of time.

### **Alternatives:**

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#### **Tent**

A tent can provide the same kind of enclosed space as the Little Room; however, the walls of a tent do not resonate as much. When providing light stimuli, you should also pay careful attention to darkening the tent – possibly by adding additional cover.

#### **Cardboard box**

At home, a large cardboard box can be used – for example, one that held a fridge. In this case, too, objects can be glued to the sides and be suspended from holes in the top. Peepholes can be made in the sides and top to allow observation of the child or participant.

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### 4.3 Activity vest and activity belt

An activity vest is a vest with objects the participant can manipulate, and because the participant is wearing the vest, the objects always remain in reach. There are several varieties of these kinds of vests (with or without sleeves).

An activity belt is a belt with one or more objects the participant can manipulate – the belt can be worn about the waist, but of course also around wrist or ankle.

Again, because the participant is wearing the belt, the objects are always within reach. Both the activity vest and belt are useful for participants who tend to frequently fiddle

with their clothing at a specific place on their body. The activity vest and belt are excellent means to provide variation at these spots. This also applies to participants who find it difficult to use their hands in a coordinated way and therefore keep them close to their body. The activity vest and belt do not provide any resonance; thus, they provide far fewer auditory stimuli. You can make changing objects easy if you fix key rings to an activity vest.

#### Alternatives:

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##### Old clothes

You can make an activity vest from an old piece of clothing that still fits the participant but that they no longer wear. Make sure that the objects are secured properly so they cannot be pulled off. Sewing on key rings will allow you to



tie various objects to the vest. You could also use Velcro – as long as it is strong and does not come off easily. However, Velcro can also distract the participant.

### **Kitchen apron**

You can use a kitchen apron in the same manner as described above. For most participants, an apron is something that can be put on easily – even for participants who are lying. Make sure that they cannot pull the apron off easily.

### **Sock or glove**

A sock or glove with objects fixed to it can also be an alternative to an activity belt; this way, you can create a similar local effect with a participant who only makes slight movements with hands or feet.

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### 4.4 Play arch

The play arch is a sturdy arch that can be placed over a participant. This way, activities are encouraged while they are in a position that is most comfortable for them. A play arch can be used with participants who are lying down,



sitting in their wheelchair, standing at a bar table, etc. There are several different types of play arches available. Various objects can be hung from a play arch.

And it can be positioned in such a way as to cause feedback when the participant moves part of their body. A play arch, too, causes no resonance, so that, depending on the objects, the auditory stimuli may be weaker. The objects can be suspended using pieces of string or elastic cord to create different reactions when they are grasped and released.

Always make sure that there are no objects touching the participant's face. When placing the arch with the objects, you should position it so that the participant can use their hands. When the participant is lying down, the arch can be placed at their feet.

#### Alternatives:

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##### Drying rack

There are hanging round drying racks which can be used as a play arch. You can fix objects to such a rack – just like on a play arch – and place it over the participant or the child.

##### Clothes rod

There are clothes rods that can be lodged between floor and ceiling. These rods are ideal for placement next to a participant or child in a wheelchair. Objects can then be hung on the rod's hooks.

### Clothes line

You can also use a clothes line, or some other line, to hang objects over a participant or child. Making knots in the line will prevent the objects from sliding away.

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### 4.5 Activity box

The activity box is a space with fixed boundaries that can contain objects. The objects can lie free or be fixed to a wire or rod along which they can be moved. This box is a good option to use with participants who tend to be active mainly when they are in a sedentary position.



When the participant moves objects in the box, they will experience sounds. Additionally, they will experience the tactile properties of the objects. Lastly, the participant will better perceive visual stimuli if there is enough contrast. Loose objects will fall back into the box, enhancing auditory stimuli.

All stimuli will give the participant incentives to manipulate the objects. If the participant often throws with objects, you can fix them to the sides of the box.

You can change the objects depending on the participant's needs. You can also replace just a number of the objects, ensuring there is always something familiar in the box.

When attaching objects to a wire, holes can be made in the sides of the box, and the wire can then be attached to the outside with a clip or key ring – removing these will allow you to change the objects.

Changing objects that are not fixed is easy.

#### Alternatives:

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#### Your own box

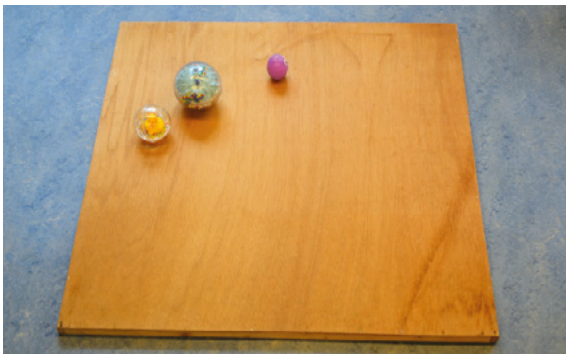
Various kinds of boxes can be used as activity boxes. Make sure that they are safe to use and have no sharp edges. It is also a good idea to think about what kind of objects to put in the box. What sound does the box make when objects are manipulated inside it?

You can create different experiences for the participant by using different kinds of boxes.

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## 4.6 Resonance Board

The Resonance Board is a large, thin board with strips at the bottom, elevating the board a little off the ground. When the participant lies on the board and moves with their body or with objects, sounds caused by these actions are resonated by the board. This resonance increases the participant's awareness of their movements. Additionally, the sounds the movements generate are perceived more intensely. The board can be used on its own, but also in combination with the materials we have described above. The resonance board is used especially often in combination with the Little Room. The participant has to lie directly on the board – its effect is negated when a blanket or something similar is used. For this reason, the board cannot be used with participants who need the support of pillows or other materials. You can also make a resonance board yourself – it is not difficult!



## 4.7 Essefboard

The Essef board consists of two boards, with springs in between. The board can be used to encourage leg activity; additionally, it stimulates the use of muscle strength. The Essef board can also be used in combination with a swing; in that case, the board should be placed so that the participant's feet hit the board and come off again. The board can be used horizontally and vertically. Due to the springs, the participant experiences pressure when they hit the board with their feet. Furthermore, materials can be attached to the board, which will cause a reaction when they are touched – this will also happen when materials are laid on the board.

When the participant lies prone on a support, the board can be positioned at their feet. In this set-up, too, the board can be used horizontally, or it can be fixed to a wall.

### 4.8 The objects

#### Visual

- Foil
- CDs
- tubes covered with foil
- lights or blinking lights
- black and white materials
- Christmas tree materials (Christmas garlands, plastic ornaments, etc.)
- wrapping paper with patterns
- flashlight
- cuddly toys with clear contrasting colours
- brightly coloured plastic cutlery or dinnerware
- booklets or pictures with clear illustrations or clear contrast
- mirrors
- flexi rods
- bicycle lights
- LED light hose





## Tactile

- crinkly foil
- artificial grass mat
- washcloth
- a toy pom-pom ball (or a ball made of other materials)
- feathers
- toothbrush
- mop
- baby toys with different tactile parts
- various patches or strips of fabric (with different textures)
- scarves
- pieces of sandpaper
- chamois leather rag
- various brushes
- fabric feel bags filled with, for example, cotton, wool or pasta
- bead necklace
- drinking straws
- various kinds of rope
- pom-poms
- flexi rods
- egg box
- curlers
- cup
- plate
- plastic cutlery
- ladle
- whisk



### Auditory

- bells
- tubes filled with various materials
- baby toys that make sounds
- ringing ball
- wind chimes
- rainmaker
- simple musical instruments
- rattles
- paper
- spoons (e.g. measuring spoons, ladle, milk beater)
- drinking straws
- bunch of keys
- tea egg with a marble in it
- kitchen timer
- crockery (plates, cups, bowls)
- music box
- bottle caps on a metal tray
- sea shells on a metal tray
- washcloth filled with crinkly foil
- balloon filled with rice or beans
- empty crisps bag or coffee packaging
- wire with plastic bottle caps



## Scent / smell

- cloth bags or jars containing different scents (e.g., coffee, cinnamon, chocolate powder, tangerine)
- pieces of cloth or cuddly toys sprinkled with scented oil
- essential oil burner
- coffee maker
- scented sticks
- scented oil
- nail polish
- car mirror freshener
- flowers (real or scented artificial ones)
- shampoo or bath foam (possibly in foot bath)
- toothpaste (possibly with toothbrush)
- scented pens or markers.



## Active Learning Observation Form<sup>2</sup>

The purpose of this form is to gain insight into:

- 1) the options the client has for Active Learning.
- 2) the way the environment can be designed (physical environment).
- 3) which support techniques best suit the client.

After completing this form, there should be enough practical guidelines to create an Active Learning environment for the client. The physical environment can then be optimally adapted to their capabilities. This creates guidelines for the method of support.

The form should be filled in together with parents or a personal caregiver.

Name:

Date of birth:

Date form completed:

Completed by:

Diagnosis:

Mental functions (IQ and EQ):

Personal characteristics/ analytical aspects	Description: circle what applies	Comments
Visual data	Acuity Contrast sensitivity: Field of View: Visual attention: Capacity for visual fixation: Preferred Eye: Cerebral Visual Impairment: yes/no	
When participant is most alert:	Morning / late morning / afternoon / late afternoon / evening / varies	

<sup>2</sup> The observation form was created by the Active Learning project group, and it is partially based on the Play Quality List-m.d. found in the book *Playing is growing, play development and facilitating play in visually impaired and blind children* (Moleman, Van den Broek & Van Eijden, 2009)

Personal characteristics/ analytical aspects	Description: circle what applies	Comments
Preferred pathway to learning:	Touch – sight – hearing – movement – smell – taste	
Specific information about other senses:	Hearing impairment tactile under sensitivityhypersensitivity – under sensitivityhypersensitivity to movement (explain)	
General health:	What health aspects need to be taken into account? (e.g. epilepsy)	
Which parts of the body allow motor activity?	Head – right arm/hand – left arm/hand – right leg/foot – left leg/foot	
The best starting position (for engaging in activities):	Supine – supine supported – prone – prone supported – sitting (unsupported on a mat) – sitting in own chair – standing at standing table – sitting in swing – sitting in bouncing chair – lying in hammock	
Preferred materials:	Hard – soft – chewable – with sound – always plays with the same materials – is stimulated by new materials	
Describe favourite toy or game:		

Personal characteristics/ analytical aspects	Description: circle what applies	Comments
<p>What actions are possible?</p>	<p>Undirected movements – directed reaching and grasping – holding and releasing – combined reaching/grasping/ releasing with corresponding tactile and auditory input – manipulation – manipulation, feeling and listening – object comparison based on active manipulation and tactile exploration</p>	
<p>Does the client show initiative in interaction?</p>	<p>None – makes contact with own body – makes undirected contact with materials nearby – makes active physical contact with materials nearby – actively searches for materials nearby – actively seeks physical contact with people in the vicinity (how?) – actively seeks contact with people in the vicinity to initiate a play action</p>	
<p>Stereotyped behaviour:</p>	<p>Repeats certain physical actions – rocks their body – repeats sounds – always performs the same action with materials – only wants to play with one specific toy in a repetitive manner</p>	

Personal characteristics/ analytical aspects	Description: circle what applies	Comments
Variation of toys:	<p>Description: circle what applies</p> <p>chooses different materials on own initiative - varies materials when offered by a caregiver - can only focus on one material at a time prefers to always play with the same material</p> <p>- has difficulty focusing on a particular choice, quickly switches to something else</p>	
Playing area:	<p>Has access to a quiet well-defined playing area - only plays in a room where others are present - lighting in the room can/cannot be adjusted (explain)</p>	
Available materials:	<p>There are/are not enough playing materials available -materials can/cannot be properly fixed in place (explain)79</p>	

Personal characteristics/ analytical aspects	Description: circle what applies	Comments
Support technique:	Offering - imitation - interaction - sharing the work - consequence	
Are there idle moments?	Describe these moments: when, and how often per day?	

Download the observation form on: [www.visio.org/activelearning](http://www.visio.org/activelearning)



# Acknowledgements

This workbook was written by the Project Group Active Learning. The Project Group consists of the following people:

- Anouk Dirkse, teacher supporter at Visio Education Breda
- Marja Knegt, development counsellor at Visio Rehabilitation & Advice Heerhugowaard
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- Tineke Ploeg, ambulatory Counsellor at Visio Rehabilitation & Advice Hoogeveen
- Martien Rienstra, occupational therapist at Visio Rehabilitation & Advice Amsterdam
- Wendy Timmermans, ambulant Counsellor at Visio Rehabilitation & Advice Den Bosch

The Active Learning observation form is partly based on the Play Quality List-m.d. from the Visio method for supporting playing activities, 'Playing is growing, play development and facilitating play in visually impaired and blind children' by Moleman, E.G.C. van den Broek and A. van Eijden (2009).

The theory behind Active Learning is described at length in the book 'Active Learning' by Martien Rienstra; this book is available as a digital edition at [www.visio.org](http://www.visio.org) - this edition also includes an extensive bibliography.

Dr Lilli Nielsen was the founder of the Active Learning approach. She published the following books:

- 'The Comprehending Hand' (1976)
- 'Spatial Relations in Congenitally Blind Infants' (1988)
- 'Are You Blind?' (1990)
- 'Space and Self '(1992) (PhD research into the effect of the Little Room)
- 'Early Learning Step By Step' (1993)
- 'Functional Scheme: Final Skills Assessment' (1976).

Active Learning international websites:

[www.activelearningspace.org](http://www.activelearningspace.org)

[www.lilliworks.com](http://www.lilliworks.com)





Visio welcomes anyone with questions about being partially sighted or blind, also if these people suffer from additional intellectual, physical, or sensory. Visio helps people to find answers to their questions about various aspects of their lives, such as aids, education, housing, work, or hobbies. Throughout the entire country of the Netherlands, Visio staff are expert partners for their clients, residents, pupils, and their networks. Expertise, innovation, passion, and cooperation are at the heart of their efforts.

Active Learning is a treatment method for children and adults with PIMD and visual disabilities, and a developmental age of 0 to 24 months. The method was developed by Dr LILLI Nielsen (1926-2013), and it provides a theoretical foundation with suggestions for practical application. Active Learning primarily focusses on clients who show a low level of activity or who, owing to their disabilities, find it difficult to engage in activities. This workbook mainly focusses on the practical guidelines the Active Learning method has to offer. The brief theoretical introduction at the beginning of this workbook outlines what Active Learning is, for whom it was created, and how it can be implemented at home or at a residential or day care group. Additionally, this workbook contains a description of materials specific to the method. We have added photos to the descriptions to make them extra clear. We have also provided practical tips, and named alternative materials. In addition to this workbook, there is an Active Learning theory book and training method. For more information please visit: [www.visio.org/activelearning](http://www.visio.org/activelearning).