Hello, I’m Uuve and I am so excited to be on the front cover. It feels nice to be in the jungle of multiliteracies when I hear stories and find messages everywhere.
This flap has been made for fun.

I expect to find a bookworm.

Peek in with your finger on the other side of the cover page.

Playful Parts:

THE JOY OF LEARNING MULTILITERACIES
INTRODUCTION

This book has been written for all those adults who are interested in promoting young children's multiliteracy skills.

Multiliteracy is literacy for now and the future. Defined broadly, multiliteracy is the skill of being human and living in an increasingly diverse world. It is the skill of understanding and being understood. Multiliteracy is the skill of approaching the world with an open and a healthily critical mindset. Multiliteracy is an understanding of diversity and polyphony.

Multiliteracy is connected to almost every aspect of thriving in one’s life: understanding, participation, well-being, empathy and trust. Multiliteracy is the foundation of everything; it is the superpower of thinking and coexistence. Multiliterate people take an open attitude toward different people and cultures, and they understand the motivations and drivers of others. They are able to talk to a wide range of people and creatively utilise various different tools and approaches to communicate. Similarly, they have the ability to make meaning of different types of texts in a number of environments and situations.

Multiliteracy provides the capability to evaluate information, arguments and opinions and, if necessary, challenge them. Multiliterate people are not left out of discussions and they are not easily deceived. They are able to act responsibly. People who are not multiliterate have a poor understanding of their physical and cultural environments. Their own thinking and understanding are easily subjugated by rigid beliefs and their worldview remains limited and narrow. In short, multiliteracy means an opportunity for comprehensive inclusion and responsible participation. Every child and adult is entitled to multiliteracy.

We consider multiliteracy to be one of the most important skills we have, yet this book would not have been possible without the nationwide development programme for the promotion of young children’s multiliteracy launched by the Ministry of Education and Culture. We have had the great pleasure and honour of designing and implementing this programme since 2017 as part of the Playful Learning Center situated at the Faculty of Educational Sciences of the Helsinki of Helsinki.

We named the development programme the Joy of Learning Multiliteracies (MOI). The acronym MOI comes from the programme’s name in Finnish and also means Hi! We chose this name to communicate the motivation, diversity and tolerance behind both learning and teaching multiliteracy skills as well as the joy of being, doing and practicing things together.

The Joy of Learning Multiliteracies (MOI) development programme is designed to promote multiliteracy among children. It is intended for personnel working in early childhood education, pre-school and the initial stages of primary education (years 1 and 2 of compulsory schooling), as well as in the library and cultural sectors. The programme is based on the latest research knowledge in the field.

The aim of the MOI programme is to develop operating models to boost children’s multiliteracy and reinforce expertise among personnel working in early childhood education, pre-school and the initial stages of primary education to support multiliteracy among children. The multidisciplinary development programme addresses cultural and gender-related inequalities and promotes equal learning opportunities in the area of multiliteracy among children aged 0–8.

The development programme consists of three components:

1. A research-based programme to support multiliteracy and the development of actions to affect early childhood education, pre-school and the initial stages of primary education (years 1 and 2 of compulsory schooling), as well as activities of cultural institutions, reinforcing collaboration between these bodies and strengthening the continuity of children’s learning in the area of multiliteracy.

2. Developing the expertise of personnel working in early childhood education, pre-school and the initial stages of primary education, as well as personnel in the library and cultural sectors, with the aim of promoting multiliteracy among children, as well as related training and guidance.

3. Studying the effectiveness of measures to promote multiliteracy and disseminating these measures.

The development programme produces research-based operating models that promote multiliteracy among children. The programme also provides an understanding of how multiliteracy can develop, and how to support and assess this in early childhood.

The set of measures developed during the programme serves to reinforce collaboration, information exchange and expertise among parties working in early childhood education, pre-schools, schools, libraries, museums and other cultural entities on a national scale. In addition, the multichannel communication utilised by the MOI development programme is an effective means of disseminating research-based information, operating models and materials related to promoting multiliteracy to adults and children in and across different settings.

We gave this book the title Playful Parts: The Joy of Learning Multiliteracies. “Playful Parts” is a metaphor that we use to encourage children and adults to use their imagination and creativity in teaching and learning multiliteracy skills. The activities highlight doing things together, using one’s imagination, being inquisitive, exploring, sharing ideas and working together to produce meaning and information.

Playful Parts are open to pedagogical interpretation and can be applied in a variety of ways. Playful Parts can be used, adopted and refined in different ways to meet the needs of particular children, situations and circumstances. Playful Parts are not time- or space-specific. They can be extensively used in different settings such as nurseries, schools, libraries, science centres, museums and homes.

We will start this book by explaining what we mean by multiliteracy and what pedagogy that promotes multiliteracy looks like. We will also describe educational materials, i.e. Playful Parts, in relation to the latest theories of multiliteracy. This will be followed by examples of the uses of Playful Parts in the promotion of children’s multiliteracy. We will also describe the information, skills and understanding related to the promotion of children’s multiliteracy that we have acquired during the process.

We hope that Playful Parts will come to life in a variety of forms when applied to activities participated in by adults and children and that they generate new approaches to enhance the joy of teaching and learning multiliteracy skills.

Hanko, 17 August 2018
Kristiina Kumpulainen, Sara Sintonen, Jenni Vartiainen, Heidi Sairanen, Alexandra Niirihiö, Jenny Byman and Jenny Renlund
DEFINING MULTILITERACY

As the term suggests, multiliteracy a multifaceted concept. It combines the words multi and literacy. Here are some ideas and meanings that multiliteracy communicates.

Multiliteracy can be seen as an extension of conventional literacy towards multiplicity and diversity in terms of both the interpretation and production of texts (New London Group, 1996). The first part of multiliteracy – ‘multi’ – refers to the multiple forms of texts, so that a text intended to be either read or produced can be written, spoken, drawn or sung; the text may also consist of various signs and symbols and their combinations. Texts are increasingly being produced in multimodal formats. Multiliteracy covers the various ways to interpret and produce multimodal texts as well as the ability to scrutinise and produce varied texts in a critical, creative and responsible manner. In this regard, the concept of multiliteracy is also connected with the notion of media literacy (see Kupiainen & Sintonen, 2009).

The term ‘multi’ is closely linked to cultural diversity and tolerance. In the context of multiliteracy, it means understanding the cultural contextualities and rules related to the production and interpretation of texts, for example. From this point of view, multiliteracy refers to the interpretation, use and production of texts in various situations with various media in an appropriate manner. Multiliteracy is also the promotion of equality. Multiliteracy skills offer children and adults an opportunity to interpret and produce texts in a variety of ways.

If the last part of the concept of multiliteracy is emphasised, the roles of skill and proficien- cy are prominent (Luukka, 2013). A skill can refer to something that can be improved by practising. Developing a skill is typically a personal and time-consuming process that improves in a communal context and by expe- riential participation.

Traditional literacy is often perceived as the acquisition of a clearly defined and auton- omous skill. Literacy has been defined as an understanding of how a letter represents a phoneme and knowing how to use this skill. In our opinion, multiliteracy should not be seen as a mechanical skill that builds up step by step. Instead, multiliteracy skills are acquired by participating in the activities of different communities. Multiliteracy, thus, is built upon human interaction and practices (Street, 1984; Pahl & Roswell, 2005; Lankshear & Knobel, 2006). The development of multiliteracy can be understood as growing in and adopting a culture and its practices, first as an observer and then as a participant and influencer of that culture.

The theoretical premises of the MOI development programme

In our work, multiliteracy is defined through a comprehensive approach to the concept of text. Texts refer to texts produced using linguistic, visual, numeric, auditory and kinaesthetic symbol systems and combinations of these. Multiliteracy involves interpreting, deconstructing and constructing the meaning systems in texts in different ways and in different environments. It means the ability to acquire, interpret, use, produce, present and evaluate texts in different forms, in different environments and situations and by using various tools. Multiliteracy covers a variety of skills required for reading and producing texts, but it is not simply seen as a set of different liter- acy skills – instead, we understand multiliteracy as interfaces, interactional processes and social practices. The term “third space” can be used in this context; it refers to the hybrid of different texts and cultures that seeks, chal- lenges and produces perspectives and mean- ings (Bhabha, 1994).

Our interpretation of multiliteracy is based on a socio-semiotic and socio-cultural prem- ise. Socio-semiotics is based on semiotics, the study of sign systems. This is linked with the skill of being able to interpret and understand the world. Socio-semiotics focuses especially on meanings and the social and cultural dimensions of how meanings are construed (Halliday, 1978; Kress, 2009).

In many respects, the socio-cultural perspec- tive of multiliteracy skills is parallel to that of socio-semiotics. It emphasises the social con- struction of meanings and the role of cultural instruments – both conceptual and material – in human interaction and meaning-making (Kumpulainen & Renshaw, 2007; Saljö, 2001; Vygotsky, 1978). Communities’ rules, values and individuals involved in activities and the resources at their disposal define social activi- ty and meaning-making (Kumpulainen, 2015).

The socio-cultural perspective sees learning as participating in a culture and influencing it. This approach does not study the changes that take place in individuals’ learning in the context of their age but rather in the context of the development and social environment that are unique to each individual. Learning is a turning point where the individual’s experi- ence of the environment changes and a new social situation of development emerges. This includes changes in the individual’s needs and motives that manifest themselves in practices of participation and meaning-making (Kumpu- lainen, 2015).

Promoting children’s multiliteracy in the curriculum

The new curriculum for early childhood education and care (OPH, 2016) as well as the core curricula for pre-primary and basic education (OPH 2014a, OPH 2014b) consider multiliteracies as one of the transversal competences. Multiliteracy defines competency and text broadly, and according to this defi- nition texts can be written, oral, audio-visual, printed and digital, and people also produce them themselves. The basic idea behind the curricula is to strengthen a wide range of competences throughout the education and instruction carried out in accordance with the curricula of pre-primary and basic education. This means that the broad range of competences are strengthened as a child grows into a young person.

Promoting multiliteracy as part of early child- hood education as well as pre-primary and basic education is a pedagogical question. High-quality pedagogical activities enhance the development of multiliteracy skills and comprehensive competences in children and young people, so it matters what is done in nurseries and schools, how different learning environments are used and how children’s and young people’s learning and well-being are supported.

The objective of achieving a broad range of competences together with different content must be taken into account in pedagogical development as well as in education and instruction in general, while children and young people, as individuals, must be seen as interpreters, users and creators of different texts. Luukka (2013) also sees multiliteracy as a pedagogical change; the focus will shift from mastering content to learning activities and practices as well as from studying alone to studying together with others. She emphasises the importance of multifaceted and diverse text environments. Kallionpää (2017) also points out how the debate about the curricula in Finland has focused on aspects related to the methods and multimodal nature of multiliteracy, while the objectives of equality, toler- ance and changing the world that were origi- nally associated with multiliteracy have been slightly ignored.

Our review of the concept of multiliteracies quickly reveals that multiliteracy skills cannot be defined by aspects that are not already covered under related concepts. At the same time, multiliteracy skills are also a well-de- fined conceptual mix that is not easily covered by any other term. Multiliteracy skills are en- twined with critical and creative thinking, atti- tude and action, engagement and accountabil- ity as well as multiple and diverse approaches to using, producing and presenting texts.
The current understanding of multiliteracy is part of a more widespread change where digitalisation in particular is a factor. Multiliteracy skills should not, then, be restricted to mean uniform literacy skills or a set of skills that develop over time and that can be adopted in one way, regardless of time and place. We would like to see a diverse and creative approach to the conceptualisation of multiliteracy and its promotion as an element in every child and young person’s life.

The pedagogical development efforts in the Joy of Learning Multiliteracies (MOI) programme are based on a child-oriented approach, imagination, cultural diversity, dialogical meaning-making as well as consistent learning that generates new ideas. This pedagogical thinking is linked to what is known as “transliteracy”, which defines multiliteracy as a constantly evolving and innovative process that moves across contexts and platforms. Pedagogical activities aim to promote understanding of diversity, engagement and innovativeness when different cultures, people and texts cross paths. The aim is not to study multiliteracy solely in terms of the mainstream culture but at the intersections and in the interaction processes between different cultures and their texts (Frau-Meigs, 2013; Serafini & Gee, 2017).

The world with its manifold phenomena needs unifying and innovative pedagogy. From a pedagogical point of view, multiliteracy is a cross-sectional skill set that is shaped by the cultural environment, people present, interaction, physical environment and tools. Multiliteracy is a constantly evolving and innovative process that moves across contexts and platforms. Pedagogical activities also benefit from story-based and play-like elements that stimulate several modalities and activities and allow both children and teachers to use their imagination and creativity.

“Uu, I’m busy. I need to hurry before the readers”

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To those of us who produced the pedagogical materials within the MOI development programme they are “Playful Parts” (Theory of Loose Parts, Simon Nicholson 1971) because of their pedagogical flexibility, adaptability and usability. “Playful Parts” is a metaphor that we use in the MOI development programme to encourage children and adults to use their imagination and playfulness in teaching and learning multiliteracy skills. Playful Parts can be used, adopted and refined in different ways to meet the needs of particular children, situations and circumstances. Playful Parts are not time- or space-specific. They can be extensively used in different settings, such as nurseries, schools, libraries, science centres, museums and homes.

The pedagogical principles of the MOI programme highlight the agency of children and teachers. By agency we refer to the children’s and adults’ ability to initiate, control and develop activities as well as to question them (Kumpulainen, Sairanen & Nordstrom, 2018, in press). Agency is supported by approaches that are child-oriented and culturally diverse.

The MOI pedagogy principles are encapsulated in the following elements (Figure 1): Child and adult agency, Learning by doing, Meaningfulness and experiential learning, The sense of community and inclusion, Conceptualisation, Critical analysis as well as Innovation.

Figure 1. The pedagogical principles of Playful Parts.
In MOI pedagogy, teachers and other adults that work with children guide and enrich children’s activities and thinking towards a more informed and analytical direction. Children are helped to interpret, produce and critically assess multimodal messages and their meanings. When discussing multiliteracy, it should be kept in mind that text is defined very broadly: it can be images, maps, sounds, symbols and videos. A key element in MOI pedagogy is that it allows children to participate in planning and assessing activities, which enhances their agency. Teachers and other adults guide and enrich children’s activities and thinking towards a more informed and analytical direction. Also included are conceptualisation and the so-called metalanguage, which Kalantzis and Cope (2012) use to describe the process that leads to meaning-making and understanding. This includes dialogical interaction and critical analysis to take distance from the experiential and familiar elements and to place them in new contexts and environments (Kumpulainen, 2015; Kumpulainen, Mikkola & Salmi, 2015). This also enhances and expands children’s thinking, participation and identities, not only as learners but also as thinking individuals and members of communities (New London Group, 1996; Wenger, 2004).

**MULTILITERACY LEARNING ENVIRONMENTS**

Multiliteracy learning environments can be approached from different perspectives. Following Manninen’s example (1997), the perspectives that the MOI development programme apply in learning environments are social, physical, local and technological, integrated by pedagogical practices. The perspectives overlap and are present simultaneously, and a particular perspective may play a lesser role from time to time. It is essential that the physical space is designed to support collaborative learning and joint meaning-making. Learning environments must provide opportunities for diverse social interaction. Learning environments are also viewed from an emotional perspective. Emotions are important in learning (see e.g. Pekrun & Linnenbrink-Garcia, 2012). Different texts and producing them will – and, most importantly, are allowed to – provoke the whole range of emotions. In a safe learning environment, children can express their feelings and emotional sense making through texts.

The MOI programme has aimed to develop learning environments that are rich textual environments where the culture produced by children and young people themselves and culture produced for them – such as fairy tales and stories, TV programmes and films, playful rhymes, poetry and music – play an important role. Children and young people are encouraged to explore, read, use and produce different texts while taking into account their earlier experiences and meaning-making. Learning environments form flexible, pedagogically consistent entities involving several different parties. They provide opportunities for play, stories, creative solutions and a variety of approaches using inspirational, imaginative and activity-based methods.

Activities and outputs also enable emotional and interaction skills to be taught when learning processes are structured together. The aim is for learning environments to form a comprehensive and experiential learning landscape for children and to encourage them towards active, collaborative and innovative learning. Learning environments can be situated in outdoor and indoor spaces, nearby nature areas, libraries, museums, science centres and other built spaces. Learning environments also use information and communication technology in an appropriate manner (OPH 2014a, OPH 2014b).

The MOI development programme emphasises the role of libraries and cultural institutions as local learning environments. Various forms of interaction and interpretation can be practiced in these spaces as part of early childhood education, pre-school and school activities and also as part of multiliteracy learning that takes place in informal situations in children’s free time. Learning environments that support a variety of texts and use of information and communications technology in an appropriate manner. Digital technology can be seen as an element that supports learning environments and enriches communication, or it can be the learning environment.
SCIENCE, ART AND STORIES AS PLAYGROUNDS OF MULTILITERACY

The MOI development programme chose science, art and stories as the contexts for teaching and learning multiliteracy skills. The common denominator here is the inquisitive child. Children's natural curiosity about the phenomena in their environment is supported by enabling them to learn about the environment in creative and analytical contexts, in which their curiosity and experience plays the most important role. Science, art and stories create a rich and consistent entity in which children can access a variety of texts as a producer, interpreter and adopter of culture as well as through their imagination (Figure 2).

Figure 2. MOI’s key learning areas.

The trinity of science, art and stories integrates methods and areas of learning that are central in early childhood education, pre-school and the initial stages of primary education. Multiliteracy consists of skills that children use to observe and empathise with their environment. By studying the environment, its messages and texts, children learn to interpret and produce information according to their competences. Approaching multiliteracy through science, art and stories supports children’s holistic development and their acquisition of essential skills in several areas. In the MOI development programme, these areas are:

- **The rich world of languages**, which supports children’s curiosity about different texts, languages and cultures, and strengthens the development of linguistic skills and linguistic identity.
- **Inquiring and influencing**, which focuses on supporting children’s natural inquisitiveness about phenomena in natural and built environments. The essential skills in this area are related to researching, such as observing, measuring and interpreting as well as thinking.
- **Growing and developing**, which emphasises children’s body awareness and body control, especially by using tools that stimulate various senses. By actively working in groups, children can practice interactive and collaborative skills.
- **Me and our community**, which combines fairy tales, music, visual arts, play, drama, various types of media content and local events in creative ways, supports skills related to cultural competences, interaction and expression.
- **Multiple modes of expression**, in which it is essential to support children’s development in musical, visual, verbal and bodily expression and to familiarise them with various arts and cultural heritage. Children are encouraged to face the world in a way that they find inspiring and thought-provoking.
THE DYNAMIC MODEL FOR PROMOTING AND EVALUATING MULTILITERACY SKILLS

Instead of defining multiliteracy as an independent skill, it can be approached as an amalgam of overlapping practices that can take a variety of forms depending on the context. Dynamic literacy theory provides tools for defining multiliteracy as a practice that can be observed in interaction between people and their environment (Green, 1988). In different contexts, multiliteracy can be explored from three perspectives of dynamic literacy, which are:

1. Operational
2. Cultural
3. Critical

The operational perspective refers to information and skills related to a specific context. For example, in contexts involving digital technology these skills include the ability to open applications or swipe the screen to turn the page. These skills also include drawing and cutting as well as the ability to make observations and measure things. The operational perspective takes into account the way a child combines tools, modalities, media and materials in order to produce texts, tangible outputs and information. In each context, there are certain basic skills and basic knowledge that are essential for communication, interpretation and production in the particular environment.

The cultural perspective involves the idea of how the above-mentioned skills and knowledge fit in the broader cultural and social context. It refers to the ability to apply one’s own experiences of social and cultural situations in the task at hand while allowing emotions to guide the process. An example would be a situation in which a child compiles a presentation of family photos. Their earlier experiences with the family become active, and the emotions related to these situations influence the outcome. The cultural perspective also takes the audience into consideration: who is it produced for, what is the reader’s background, what am I trying to communicate?

The critical perspective takes into account the ability to examine texts and outputs critically and analytically using different approaches. The text can be targeted for various purposes such as entertainment or to describe a process of explorative activities. Different purposes can be highlighted by the text format: what kind of output promotes comfort and what kind of output is best suited to sharing information? A text always shows signs of the person who produced it. The critical perspective encourages us to think about how we appear to others as the producer of a text or output as well as to think about the producers and their motivations when we consume different texts.

Based on what is said above, the MOI development programme has drawn up a pedagogical map of multiliteracy (Figure 3), which can be used for planning pedagogical activities and materials that promote multiliteracy. In addition to the operational, cultural and critical perspectives, it also consists of the playful imagination characteristic of children; the opportunities for play are endless, and children find completely new meanings and uses for things and objects through play.

In MOI’s pedagogical model, Interpretation of texts refers to a child’s ability to understand the architecture, rules, concepts and symbols in different texts. It also refers to a child’s ability to analyse and interpret a variety of texts, while understanding their objectives, operatoarial culture, values and ideologies.

Production of texts focuses on a child’s ability to use different types of texts and tools to create information, and to make and share meanings. This includes taking responsibility in one’s production and communication of different types of texts.

Enculturation refers to a child’s ability to grow into, participate and influence existing cultures of practice by learning to use their tools and texts in culturally appropriate ways.

Imagination highlights the children’s right to imagine and play with their world – texts and culture. By using their imagination children can actively participate in the creation of new meanings, cultural products and information.

We will present Playful Parts based on the MOI pedagogical map in the following chapters. The map helps readers to visualise what elements each Playful Part represents in the field of multiliteracy. Please note that teachers may emphasise Playful Parts in different ways. Playful Parts may also be used in different learning environments and contexts than those described in this book. We do hope that the Playful Parts are amended, extended, cut and enriched in every possible way to make the experience as playful as possible.
Interpreting and producing different texts and messages forms part of multiliteracy. Stories, and interpreting and inventing them, develop and strengthen a number of literacy and linguistic skills. Stories improve imagination and creativity. Stories also offer a platform for diverse forms of expression. By inventing stories children can enter worlds that they could not see in real life.

The storybook is a child's own book in which the child is the storyteller, writer and illustrator. There are many ways to create stories. The storybook is based on a broad definition of text, in which a story can be made up of different multimodal texts, such as written text, images, symbols, facial expressions, gestures, sounds and combinations of these. Both analogue and digital forms of story-telling can be applied in the storybook. When a story can be created using a variety of texts, its creator does not need to know how to read or write in traditional ways to be able to produce their own story.

The storybook allows children to produce stories on their own or with others, and they can also share their creation with others. The storybook can be used with children in different stages of linguistic development. The storybook supports the creation of a rich language environment, and it can be used to encourage children to engage in visual, auditory and audio-visual texts. The storybook is designed in such a way that it guides children to think about the key features of a story. In other words, where the story begins, how it progresses and how it ends. Children are encouraged to think about the setting and the characters, as well as what makes a story interesting or surprising.

In the storybook material, a child's own storybook is left empty so that they can create their own adventure. The story can be taken forward by the means of modelling dough, playing or drama. The pages and spreads are open so that the child has plenty of space for writing, drawing, attaching images or a QR code, for example. The storybook inspires children to create an entire story from start to end. The story is created step by step so that the author and the illustrator can bring it forward little by little. In order to create a whole story, it advisable to follow certain steps.
Children create stories using the teacher’s boards and their own storybooks. The teacher’s boards provide tips and ideas for how to start a story, its setting, characters, atmosphere, plot and ending. Children can also rely solely on the storybook so that the teacher’s boards are not required. The storybook is accompanied by a guide, “Ideoita Tarinakirja-materiaalin käyttöön” (‘Ideas for how to use storybook materials’), which offers teachers and educators tips for using the materials.
Here we will describe how the storybook has been used.

The adventure begins with a bear

We started working on the storybook by focusing on a bear. Children watched a short video of bears beginning to hibernate, then we read a story about a bear in a picture book. We discussed the book with the children and jointly interpreted the story:

**Tip:** Set the mood for storytelling with a subject that the children are familiar with so that they can associate the story with things they know.

After the unstructured storytelling it was time to play. The children wanted to play hibernating bears, so that is what we did.

**Tip:** The minor character's emotional state can be discussed using MOI's mood cards.

In the second session, the children were given their storybooks. As we started filling in the storybook, they became writers and illustrators through means of drama. They made story glasses out of pipe cleaners in their chosen colours. They put the story glasses on and told a story to their pair; they were allowed to tell the same story or come up with a new one.

Then it was time to start working on their own storybooks. The first task was to decide on the setting. The tip on the teacher's board reads: “When everyone is sleeping”. The children could use this to start their story or invent a different start. The children were able to draw, write or make the setting.

Next we came up with the main character. It was made of modelling dough, fabric and different coloured sheets of paper. A picture was taken, printed and attached to the storybook.

When the main character was ready, we started thinking about the weather and the symbols used in the forecast in general and checked the symbols and their meanings on the internet. The children could then cut symbols out of newspapers, draw them or write them. The teacher's board also offered them tips.

At this stage, we then introduced one or more minor characters. A picture of the character was drawn and its emotional state was discussed. It was described by drawing emojis.

**Tip:** The image can be traced from the tablet if you dim the brightness and if the paper is thin enough.

The children could produce the sound for the story using their chosen technique. They could do this using instruments, their bodies or they could record sounds from their surroundings, which was their classroom, school corridors or the school playground. The sound was recorded on tablets and stored in a cloud service with a QR code. The code was attached to the book and could be read with a QR-code reader.

**Tip:** If the children happen to be going on a school trip while they are creating their stories, sounds can also be recorded during the trip.

The children went on to come up with a plot. Using the teacher's boards, the children and teacher discussed how to make the plot progress, and the children discussed their plots in small groups or in pairs. The children were encouraged to provide ideas for other children's plots, though every author decided for themselves if they wanted to use these ideas. The children took their stories forward by drawing and writing.

The plots often contained surprises and unexpected events, making the stories more interesting. The children created surprising situations through play: in groups of four, they acted out a surprising event that took place in their story and took a photo with their tablets that best represented the event. They then drew a picture from the photo on the tablet.

Finally, every author told the class their story, after which the books were stored in the class library where the children could borrow and read the stories whenever they had time. Thanks to the class library, every child got to be an author and illustrator and share their stories with others.

**Tip:** The creation of a storybook could also focus more on the production of images, in which case you can invite an artist to visit the children and to share her/his expertise on illustration and the artistic process in general.
There once were two little fish,
who still had a lot to learn;
they decided to fly to the moon and see,
if they could build a nest in a giant tree.
Time to go! They swam onto land
and dug their launchpads in the sand.
But – dear oh dear – they got nowhere near!
And we all know why –
fish can’t fly.

Scientific literacy

Scientific literacy is one form of literacy covered by the broad umbrella definition of literacy within the concept of multiliteracy. Scientific literacy refers to an individual’s ability to participate in social debates about scientific topics as well as the ability to apply scientific knowledge to life decisions. The individual should also be able to understand the nature of the consequences of their actions on the environment. The environment in this context is understood in a broad sense to cover the surrounding natural environment, the built environment as well as the social and cultural environment. Scientific literacy entails a conceptual knowledge of science and the ability to apply this knowledge. An individual should also have the ability to understand and apply the scientific process, which includes:

- identifying issues that can be approached scientifically
- the ability to identify findings that can be used to answer scientific questions
- producing and evaluating conclusions
- being able to communicate in a scientific context

“It’d be so cool to just investigate things. To have a bite to eat and then investigate again!” (Mary, 7 years old)

Scientific literacy is needed in everyday life

Scientific literacy is a skill that we need in everyday life. In order to bring up citizens with critical thinking skills who are able to make informed decisions, we need to understand scientific findings and applications as well as scientific processes so that we can interpret, produce and evaluate various messages concerning science. The foundation for scientific literacy is laid in early childhood education. Practising the so-called science process skills at an early age supports a child’s later competence in science and promotes a positive attitude to science.
Poetry Science cards – poetry and research skills

Poems and nursery rhymes are one way to introduce children to the rich world of language. They also offer a great basis for practising interpretation and using imagination. The Poetry Science cards approach scientific literacy through poems. The illustrations on the cards feed the imagination, and they can be discussed with children. The themes can be used as the basis for experiments that improve children’s inquiry and research skills, and children can try them out with the support of an adult. The poems provide a framework within which children can communicate and verbalise the phases and findings of their experiments.

There are nine themes in the Poetry Science cards, and they are used for observing scientific phenomena: Autumn Leaves (colours), Flying Fish (air resistance), Snowfall (crystallisation), The Bird Dances (identification of species), The Water Cycle (rain), The Rocket (pressure), The Penguin’s Balloon Puzzle (formation of gas), the Senses in a Mess (senses) and How Fast Do Plants Grow? (germination).

The brief for this task is open, and the approach is based on the principles of exploratory learning as well as the theory of dynamic literacy. Children can take part in defining the hypothesis or setting the objective, designing the method as well as drawing conclusions. An adult supports the children in the process in a child-sensitive way. The poetry cards can be used in various playful contexts and also as part of storytelling or drama, for example. The following examples describe two cases in which the cards were used with children aged between three and five and pre-school children aged six to seven years old.

Producing and interpreting information using dramatic methods

In pre-school, the Poetry Science cards were used in conjunction with drama played out with finger puppets. In the dramatic approach, it was important to switch the children’s role to that of researcher. This was achieved when they put on white jackets and goggles. Rules had been drawn up earlier to agree on what researchers could do. They were allowed to make observations, interpret, experiment, measure, share their observations and work peacefully with the others.

The finger puppet was a small elephant called Ellie the Elephant, who lived in a little bag. To kick off the drama, the children whispered to call Ellie to come out. Ellie the Elephant was very small and timid, so anything louder than whisper would have scared her.

One side of a Poetry Science card features a poem by a child along with a beautiful illustration, while the other side offers a suggestion for how the theme could be researched with children through activities.

The children sit in a circle and whisper: “Ellie the Elephant”. One more time, the teacher encourages them. “Ellie the Elephant”, the children whisper intently. The teacher produces a small grey elephant finger puppet from the bag. The teacher, in Ellie’s voice, begins to tell a story about how the elephant had been in the woods and had seen something white. The children rush to say that it must have been snow. They also describe the different things you can make out of snow.

The elephant shows the children a poetry card. The children listen carefully as the teacher reads the poem on the card, in the elephant voice. The children are then encouraged to describe what snow looks and feels like. The teacher continues to lead the discussion so that the children begin to focus on how snow forms. Together with the elephant, the children finally come up with the hypothesis for their experiment: what does the formation of a snowflake look like?

The children studied the formation using salt: a snowflake is formed from ice crystals but, since it is difficult to study the formation of an ice crystal, salt crystals are used instead. First, they measured how many tablespoons of salt could be dissolved in warm water before becoming saturated. Then they immersed a snowflake shape made from a pipe cleaner in the salt and left it there for a few days to form crystals. The children were asked to record any changes happening to the pipe cleaner by taking photos, drawing or through audio dictation.
“Hey teacher, have a look!” says a happy voice. “There’s more water coming in”, says the child, looking into the glass where he had placed some salt. “What makes you think there’s more water coming in?” asks the teacher. “Well the water was here first and now it’s here,” the child points at a level a little higher than it was before. The teacher praises the child for being so observant and asks the children to come up with different ways to measure the extent to which the water surface has risen. One child sticks up a finger, another a ruler and a third child uses a pen as a measuring tool. When the children have a plan, they settle down. “Let’s call Ellie the Elephant,” the children urge the teacher. The teacher, however, says that first they need to write down the children’s hypotheses of what is happening. Someone suggests that the wire will disappear and it will turn white. Another child thinks it will turn a different colour, and a third child explains that it will turn brown as it gets rusty. The teacher writes down all the hypotheses in the research notebook. Then it is time to show the elephant the current results. “Ellie the Elephant,” begins the silent whisper.

The Poetry Science cards made it possible for the children to produce new information. This new information was the observations and interpretations they made through their simple experiments. The discussions with Ellie the Elephant gave the children an opportunity to associate the new information with their previous experiences and to think about how information could be applied in their environment in the future. The children had no problem playing and interacting with Ellie the Elephant. Ellie’s character was deliberately set at a lower level than that of the children in terms of knowledge and skills so as to enable the children to challenge their ideas and to make them think of ways to explain the results to someone who is not familiar with the subject.

**Hurricane’s science stories feed the children’s imagination**

Last week, the children studied the colours of autumn leaves. Now, the 3-5-year olds are sitting in a circle, eager to continue the story that started with Hurricane’s adventures. Hurricane is a soft toy dragon, and this is the sequel to the story produced by the teacher and the children.

“Last week you came up with colour recipes for Hurricane and he went outdoors to paint some trees in bright autumn colours, just like you suggested,” the teacher reminds the children. “Is he happy now?” asks a child. Hurricane steps in: “I was painting a tree when I felt something dropping on my head, then it happened again, and again, and there was a lot of it.” “It was raindrops, it was rain!” The children call out explanations. One child says that this meant the colours were washed away. “Hurricane, did the colours disappear?” asks another child. Hurricane tells them that they did, but it was alright as he was interested in other things. The teacher asks the children what they think Hurricane wants to know. “Where does rain come from?” “And what are clouds?” suggests the teacher. The children remind the teacher to write everything down. The children watch a video about how to make a cloud in a glass jar to see what it is made of.

Desks are set up for the children in another room. A vacuum flask full of warm water, hair spray, and a jar with a lid have been placed on the desks. When the children are ready, the teacher pulls out plastic cups containing ice cubes from a cool box. The children went through the main points of the video, and each child in the group was given a role: one poured the water, one closed the lid, one sprayed the hair spray and one put the ice cubes in place. The children started the activity.

There were a few centimetres of warm water in the glass jar and some hair spray had been sprayed in it. One child tells the others not to forget the ice cubes. Another child reminds the other that they are not allowed to eat the ice cubes on top of the lid. Water vapour starts to form in the jar and a light cloud is formed. “There’s a cloud!” they say excitedly. “Let’s open the lid,” someone suggests, clapping her hands. The lid is opened. “It’s coming out!” The children are excited to see the cloud rising out of the jar. They try to grab it with their hands, feeling it and laughing. “What a wonderful cloud,” goes a happy whisper.

In addition to practicing research skills as part of scientific literacy, the Poetry Science cards also provide experiences of joy and success in the context of science. Positive experiences that children obtain from experiments they carry out themselves and that they can share with others promote positive attitudes and a self-image of being a capable learner.

When they sit down in a circle again, the children are full of energy. They are excited and want to tell Hurricane that clouds are made of water. Hurricane is taken out to listen to the findings. The children tell him about their observations about the experiment and their earlier experiences of clouds and rain. The teacher tells the children that Hurricane is happy and very proud of them. Then it is time to continue Hurricane’s story. What is Hurricane going to do now? “He’s going to make a cloud by himself,” says one of the children. This is carefully written down so Hurricane’s science adventure can continue the following week.

In the Hurricane example, the experiment is accompanied by shared storytelling. Using hints and suggestions, it is possible to continue the story on the children’s terms whilst supporting the experiment at hand. Children’s agency and inclusion are enhanced when science and research are included as part of children’s culture and storytelling.

**Poetry Science cards in the framework of multiliteracy pedagogy**

The Poetry Science cards focus on producing information that is carried out collectively. Observing a phenomenon, which is explored through multiple senses and approaches, yields information. The resulting information is evaluated and amended as more observations are collected. Science has its own culture of methods for thinking, communicating and applying the information obtained. When children use the Poetry Science cards, they learn scientific reasoning as well as how to adapt, through their own culture, the social and cultural state that prevails at that moment in a scientific context. The cards fire the imagination. Using their imagination offers children a familiar platform on which they are able to verbalise and communicate processes using scientific terms. With the Poetry Science cards, interpreting information means interpreting information that is gathered by others through experiments.
“Trees shouldn’t be felled because they feel bad about it. And you shouldn’t pull out leaves from trees.”

(Liisa, 6 years old)
Multiliteracy skills from the Whisper of the Spirit

Children's multiliteracy skills can be improved by exploring cultural heritage and cultural environment and the material and non-material elements in these that children find fascinating. It is good to leave room for children's imagination, as well. According to the authors, the basis for the Whisper of the Spirit is the goal of encouraging children's joint meaning-making, storytelling and invention. “The tasks jump of the page,” one of the authors explains. The Whisper of the Spirit is not an exercise book as such, but it is open to interpretation, as there is no single right way of using it. We talk about pedagogical design where transparency and applicability are inherent. High-quality design and production that are aesthetic ensure that educational materials provide an inspiring framework for activities and learning; the materials do not rely on repetition but encountering new and unexpected experiences, while also being connected to the here and now, i.e. Finnish nature and culture in this case.

Myths as inspiration for imagination and conveyors of cultural heritage

The MOI development programme produced the Whisper of the Spirit activity cards to be used in early childhood education, pre-school and the initial stages of primary education. The material is related to Finns' ancient beliefs and myths concerning nature.

Myths are shared stories and beliefs about things that no one has ever really seen or experienced but that are still believed to be true. In the past, a long time ago, Finnish myths often had their origins in observations about nature. The natural world inspired people and they wanted to interact with it. People in the ancient times had a completely different relationship to nature from us.

Nature has always been especially important to people living in the north, as the four seasons make the northern environment very rich and varied. It is unsurprising that it has kindled people's imagination and been the source of many beliefs. For example, shooting stars were believed to be cracks in the sky through which gods could take a peek at the Earth. Forests and their spirits were also an essential part of the northern culture and way of life as they were an important source of food.

The educational aim of the activity cards is for children to take an interest in Finnish nature and ancient beliefs from a variety of perspectives. The tasks encourage children to observe, reflect, innovate and experiment. The material package is versatile, and it can be used on various digital devices.

Spirits telling stories at an exhibition

The Whisper of the Spirit materials were used during an autumn term at a pre-school that participates in the MOI programme. The children got to know different spirits and elves from storybooks, films, songs and plays as well as from doing Whisper of the Spirit exercises. They created and designed spirits that protect nature. Materials such as sticks, cones and stones were collected from a nearby forest, and recycled materials were also used.

During the Spirit project, the children discussed emotions, how to be a good friend and how people could better protect the environment.

When the project was finished, the pre-school and the nearby library held an exhibition, which used QR codes, where visitors got to know the stories about the spirits and elves.

The teacher: “We started planning for the Spirit project with the children. We looked at totem poles on digital devices and discussed what creatures we might have here in Finland. We talked about elves that live in people's homes and saunas; the children already knew about these. We talked about the forest and nature, and this gave us the idea to create spirits and protectors of forests and nature.”
The Whisper of the Spirit in the framework of multiliteracy pedagogy

Figure 6. In Whisper of the Spirit the child makes meanings, grows into culture and imagines.

My idea:

I came up with this idea after having read a paragraph in the Whisper of the Spirit material:

This is how I can implement the idea with children:

I intend to implement the idea (time):

“He smells of cola because he's washed himself in cola. And when the smell disappears, he washes himself in cola again, because his friends smell of cola, and if he doesn't smell the same, his friends will tell him he's ugly.” (Leo, 4 years old)

Expression Through Sensory Experiences

The Sensory workshop is a place where children can create their own imaginary creature and where multiliteracy skills are approached through arts and the senses. We are connected to our environment through our senses, and they are connected with our experiences, thoughts and emotions. Art as a teaching method gives verbal communication an alternative dimension and opportunities for self-expression.

When we were developing the sensory workshop, we realised that the different elements in the workshop inspired children’s imagination, inquisitiveness and emotions such as joy. The Sensory workshop teaches children to take note of different scents, textures and sounds in their surroundings. Children were particularly interested in scents with which they were already familiar. The images, memories and emotions that they stirred were the basis for the workshop and a connection to their imagination. Storytelling also played an important role in the workshop. Children were eager to explain where the ideas for their works came from, and their stories about their imaginary characters’ characteristics and features were both versatile and deep.

“This flower’s petals feel the same as my creature’s teeth” (Pekka, 6 years old)

Experiencing and creating sense-based art allows everyone to learn multiliteracy skills, regardless of their age or abilities such as verbal communication. The Sensory workshop lets children interpret sense-based experiences and communicate these to others using different forms of expression. An essential part of the workshop is group discussions and processing and analysing experiences. The participants can be active learners who observe, explore, internalise, produce, communicate and share the things they are learning about. These are the pillars of multiliteracy skills. The purpose of the workshop is to highlight the idea of joyful learning through play.

We have held the Sensory workshop for small children and slightly older children at MOI project events, science corners, libraries and at the MOI event at the science centre Heureka. The process has included smelling different scents, verbal reasoning, visual expression and feeling different textures and materials. It has been easiest to work in small groups, using the senses little by little. As the workshop has progressed, children have created their own imaginary creature.

Its characteristics have been a collection of elements gathered through different senses. The children have also been allowed to hang their creatures on display.

The Sensory workshop is constantly evolving, and the aim is to make it possible to combine and apply the various elements in a versatile way. Playing with sounds has been introduced as a new feature. Other possible features include the creatures’ body movements or even the construction of a nest for them. We would like to see workshops that are implemented with an open and creative mind so that they are adapted to meet the needs of different groups of children.

“This is the cola bottle, it lives in the ocean; it's afraid of everything and very shy” (Emilia, 6 years old) child

The Creature Comes To Life Step By Step

Smell

“It doesn’t stink, it smells nice” (Mia, 4 years old)

First, we sit in a group with the smell jars and talk about smells. For this exercise, you will need jars in which you have put spices and essential oils. The jars are marked with letters and the adult has a list of the contents of each jar. Some questions that you can use to open the discussion with the children:

- Does summer smell different from winter? What smells nice or bad in the spring?

After this, you smell the contents of the jars. The children are not told what the jars contain yet. They can tell others what kind of things come to their mind, which smells they like and which ones they find bad. The idea is for the children to think about the causes and effects of the different scents and odours. The children get to choose one smell that they find particularly interesting, and they write down the letter of this smell on a piece of paper.

“Does you smell different from winter? What smells nice or bad in the spring?”

The participants can be active learners who observe, explore, internalise, produce, communicate and share the things they are learning about. These are the pillars of multiliteracy skills. The purpose of the workshop is to highlight the idea of joyful learning through play.

Figure 7. A piece of paper (‘nose paper’) used in the Sensory workshop.

Figure 5. A Sensory workshop at a MOI-seminar at the Heureka Science Center.
Create

In the next stage, the smell is combined with visual expression. The children’s imaginations and creative work are inspired by the mental images that the smells stir. We ask the children to come up with a fantasy creature that would smell of the scent they have chosen. They can then draw or paint the creature. We remind the children to keep their chosen smell in mind when creating the creature. The purpose of this stage is to think about the importance of the smell in the development of the creature’s characteristics and personality.

Questions that the children can think about during the creation process:

- What would a creature that smells like this look like?
- Why does the creature smell like this?
- How does the creature behave and where does it live?

The children are free to develop and paint their imaginary creatures.

Feel

The children are asked to think about what the creatures would feel like if they could stroke them. The idea is to go out and let the children feel different textures outdoors and to collect materials to be glued onto their creatures. They should understand the importance of the sense of touch and the variety of textures found in nature. The children are encouraged to think about what the different parts of the creature feel like and whether they are pleasant or unpleasant to touch. They are then asked to glue the materials onto the creature, and they can attach a note to the painting to ask people to stroke their creatures.

“My animal is a bit sharp as well as a little smooth and moist” (Sara, 6 years old)

Figure 8. A heart-shaped paper used in the Sensory workshop.

Picture 6. Planning the creature.

Picture 7. Scents and colors.

Picture 8. An artist at work in the Sensory workshop.

Listen

This is the part of the workshop where we think about the sounds in the environment and what different living creatures sound like. The idea is for the children to discuss what messages the various sounds communicate and how different sounds affect them. The children use a digital device to develop and record a sound or sounds for their creature to make. The recording can be attached to the work using a QR code.

Questions that the children could consider when developing the sound:

- What does the creature sound like?
- What does it communicate with the sound?

MOI-mood cards work well in helping children to express their emotions.

During the Sensory workshops, children can be encouraged to verbalise their sensory experiences and emotions by various descriptive words.

Share

When the creatures are complete, we ask the children to give them a name and to write the name on a piece of paper, which is then attached to the painting. Children can now check the list of smells to see which one they had chosen. To end the workshop on a playful note, the children can arrange an art exhibition, where they can see the other children’s creatures, smell the contents of the jars to see what each creature smells like, touch the creature and listen to the sounds using the QR codes.

Picture 10. An imaginative creature at the MOI-day at Heureka Science Center.

Picture 11. An art exhibition at the MOI-day at Heureka Science Center.
The sensory workshop in the framework of multiliteracy pedagogy

The aim of the sensory workshop is to stimulate the children's sense of curiosity and to encourage them to explore their immediate environment as well as inspire them to express themselves through interpretation. During the workshop, the children move both indoors and outdoors. The physical features of different learning environments are integrated in the pedagogical process. When improving children’s multiliteracy skills using art-based methods, their creative process relies on their experiences, imagination and knowledge. The sensory observations allow them to explore, internalise and interpret features in the environment. This process can include elements such as discussions on aesthetic and social issues. The children are required to use their imagination to give new meanings to their observations while producing information from their subjective experiences, which they can share with others through their works of art.

A work of art serves as a bridge to a child’s thoughts and complex world of imagination, while also making it possible to share these with others. The exhibition at the end of the workshop serves as an introduction to the different ways that people experience and interpret various phenomena. The children can see and interpret texts produced by other children, and they also receive feedback on their own works. Being aware of the multitude of viewpoints is an area of multiliteracy skills that is an integral part of enculturation.
What and why?

Sometimes it is good to stop and listen a little more carefully. After all, sound is an element that can be used for conveying information, emotions and stories in everyday situations and in different types of texts. Children have different text and reading contexts now, and multiliteracy requires skills to interpret and express ideas in a number of representation and meaning systems. Sound is one element in the production and interpretation of texts; as a modality it is versatile, powerful and fascinating albeit challenging to deal with, with children, due to its intangibility.

The Keen Ears activity cards, published in 2015, is a set of educational materials that encourage children to observe and explore sounds in new ways. The material was so popular that Keen Ears 2 was published in 2016. The pedagogical aim is to spark interest and curiosity towards sounds and auditory phenomena, which supports the development of multiliteracy skills.

The Keen Ears tasks encourage children to observe, use their imagination, listen and see things in different ways. Children are asked to draw what excitement sounds like, for example. The Keen Ears tasks work best when they are applied to the circumstances and used as basis for tasks invented together with children.

The guidebook “Sound art with children” is also available in addition to the cards. The guidebook explains how it is a good idea to begin familiarising yourself and children with sound art by sensing, perceiving and listening to sounds together and by experimenting with different ways of creating various sounds. Moments of inspiration could include listening to various sound samples and experimenting with materials, such as shells, ear trumpets and magnifying glasses, to take the first steps on the journey towards the fascinating world of sound. Different ways of making art and experimenting are also an interesting starting point for supporting multiliteracy skills since they offer children an opportunity to familiarise themselves with various materials (tangible, intangible and abstract) and means and instruments of expression, which make up and maintain different meaning systems.

How?

The development of multiliteracy skills can be supported in various ways, such as designing new types of ears, for example ones that only hear particular sounds. The Keen Ears cards ask children to describe what an ear that's developed to hear low sounds looks like or to imagine if the ears were elsewhere on the body besides the head. What would you hear if you had ears that could hear sounds from the past?

Some of the tasks were designed and made by children. Tasks that you can do with the children include designing instruments for a special purpose, such as playing serenades to their best friends. You may even be able to make this instrument. One child built a “pop-maker” out of a cardboard box and thick elastic; the instrument produces the pop sound needed in a play.

One of the children's favourite tasks has been “the Ant Card”, in which they are asked to think about what it sounds like when an ant walks on sand, ice and clouds. One child insisted on describing the ant as running in the same situation as ants never walk (“because they are so busy all the time”).

Perceiving sounds is also associated with storytelling. Stories can be told by recording and organising different sounds. For example, you can help children to experiment with creating a chain of events by editing and combining three different sounds (but not speech). You can create interesting sounds by handling different types of paper: flap cardboard, tear silk paper, crumple baking paper. Record the sounds and use them in a story.
Most children find listening to sounds and being introduced to different soundscapes interesting and fun. The fact that listening to things carefully requires focus does not seem to bother children, quite the contrary: a soundscape sounds different every time you listen to it, no matter how many times you hear it. For example, it is really fascinating to listen to the same soundscape at different times of the day or in different seasons.

The context of the MOI multiliteracy programme, science, art and stories, is also an interesting approach to reading with a keen ear. It is great fun to explore sounds with children. Visualising sounds usually means making a connection between the sound and its source or describing ambiences created by sounds, but thanks to digitalisation, it is now possible to create visual representations of auditory phenomena with a spectrogram. A spectrogram describes sound in terms of time and frequency, and it shows the sound’s intensity in colours. It is interesting to read spectrograms with children.
Children go through numerous emotions every day. Being able to recognise and name different emotions helps them to cope with these. Skills concerning the interpretation and expression of their own emotions as well as those of others are required in everyday life. Recognising and interpreting different emotions requires multiliteracy skills. Playing and having fun with the definitions of emotions is a means to learn to recognise and control them. Dealing with different situations and communicating with people that interact in different situations requires an individual and a group to be capable of interpreting and expressing different emotions. The ability to interpret and express emotions, i.e. emotional literacy, can be practiced using the mood cards. The cards can be used with or without words.

The mood cards were created to be used especially in conjunction with stories. They can be used to describe what a story feels like and what emotions it stirs in children. The mood cards can be used with stories that are made of written, oral, visual or other types of texts. Many children find it easy to use images to manage and express their emotions and to understand other children’s expression of emotions. With the help of the cards, children can take part in various activities and express their own feelings.

The mood cards can be used in various situations, not only with stories, in nurseries and schools. They help children to express their emotions, and they can be used for discussing emotions and even in self-evaluation. The cards can also serve as a stepping stone to a larger project in which emotions are present.

There are seven mood cards: Nice, Now I feel like crying, Scared, Horror, Funny, Oh my! and What on Earth is this?

The image side of the Emotion card: “Funny”

The reverse side of the card: How did the story feel like?

Figure 13. Mood cards emphasise meaning-making and growing into culture.
Let’s look at the pictures in the stories

The group of under-three-year-olds used the mood cards to express emotions, read images and tell stories. The pictures were hung on the wall, and the group familiarised themselves with the pictures and the emotions depicted by looking at and discussing them every day for a few weeks. Books were read with the cards, so that the emotions and stories were mixed and the emotions in the stories were discussed. When the children got to know the cards and the emotions, they started to use the cards in their everyday life. When they arrived at the nursery in the morning, they could pick up the card that best described how they were feeling to show their parent. These emotions were then discussed in the morning meeting.

The group regularly visited the library to borrow new books. Each child picked up books that they were interested in, either based on the cover or having leafed through the book in the library. These books were read in different situations during the day, the children sometimes stopping to discuss pictures and the emotions they stirred.

Which colours make you feel a particular way? Which objects or people make you feel a particular way? Does an image stir many emotions in the reader and the group discussing the book?

The mood cards encouraged the children to create their own mood cards using different tools and methods. They also told stories with the help of the cards. The stories were recorded on various media. One day the children wanted to “be silly”, and the atmosphere was noticeably restless. This restlessness was put to use by means of drama; the children were asked to come up with plays. As it was a bright autumn day, it was decided that the plays would be performed in the nearby forest. Toys and other objects were left in the nursery, only a tablet was brought along. Materials found in the forest were used as props.

The stories were inspired by the children’s play, through which they expressed different emotions either with or without the mood cards. The adults were watching the children, and when asked by the children, they took pictures of the play.

The pictures were printed and hung on the wall, and they became new mood cards. The pictures and videos were also put together to create new stories for the group.

The group used the mood cards in various contexts during the school year: when reading and telling stories as well as in everyday activities.

More Ideas

Science

The classic folk tale Chicken Licken is a great story to inspire discussion about being critical towards information.

In the tale, an acorn falls on Chicken Licken’s head, which she takes to be a sign that the sky is falling. She rushes to tell the king about the incident. On her way to the king’s castle, the chicken, in panic, meets her friends, who want to know why she is in such a hurry. Chicken Licken tells them that the sky is about to fall down, and her friends, one by one, join her heading for the king’s castle, never questioning the news.

Having told the children the tale, I asked them to describe to me what they thought it was all about. We discussed if the chicken could have come to another conclusion about the sky falling down. The children thought about the tale and decided that the sky cannot fall as it is air.
Let's explore air!

The sky is air, so it cannot fall down in the way that an acorn falls from a tree; it surrounds us as constant matter. Even if we cannot see air, it is matter – we can feel air when it moves! The wind blows in your face and tousles your hair. Sometimes it can even lift a car into the air if it becomes a hurricane. We can also see air moving through other things: when it moves, it makes trees sway, it causes small ripples to form on the surface of water and it lifts kites up.

We studied air’s matter-like features by experimenting how we could lift objects up with the help of air. This experiment is easy to carry out, and you can prepare for it together with the children.

Equipment:
- A resealable plastic bag
- A straw
- A pile of books

1. Push the straw into the bag near the end of the zip. Close the zip. Practice blowing into the bag through the straw a few times. Pinch the bag around the straw with your fingers to make sure it is airtight.

2. Place the empty bag on a table and place a book on top of it so that you can blow into the bag. What happens when you blow air into the bag?

3. Take the largest book. Place several resealable plastic bags under it. Together with your friends, blow air into the bags at the same time. How heavy a book can you lift together?

This experiment shows us that air really is matter. It can hold up a heavy load.

Science-themed picture books

Researchers say that it is a good idea to introduce even young children to science-themed picture books. You can use books to teach children concepts as well as important and fundamental exploration skills, such as posing questions concerning the environment, recording and sharing observations and conclusions as well as making predictions. This requires intensive discussions about the texts and active support for the children’s thinking. The study was part of a project (Science and Literacy Project) that combined literature and learning science in experiential contexts.


The balloon experiment

This activity supports the development of multiliteracy and research skills. Children practice making observations, interpreting them and problem solving.

You will need the following objects for this experiment:
- baking soda
- vinegar
- teaspoon
- syringe or a measuring spoon set
- a small transparent jar or a glass
- an empty balloon
- an empty bottle
- a funnel (you can also make one out of baking paper, for example)

First, let’s see how baking soda and vinegar react. Measure two teaspoons of baking soda into the jar. Measure 10 ml vinegar into the syringe. Add the vinegar to the soda and observe what happens: what can you see? What does it sound like? How would you describe your observations?

Next, measure 30 ml of vinegar into the bottle. Measure 5 teaspoons of baking soda into the balloon. Pull the mouth of the balloon around the mouth of the bottle. Lift the balloon upright so that the soda pours down into the bottle. What can you observe happening?

Discuss why do the balloon bulges out? How could you make the balloon even bigger?

Record the different stages of the experiment in photos or video. Discuss which features of the experiment are worth presenting and how they should be presented so that readers get a good idea of what was done.

For the adult guiding the experiment

Encourage the children to describe what observations they make at each stage. Observations can be recorded by drawing, recording comments as well as taking photos or videos.

The balloon bulges out because baking soda and vinegar cause a reaction that produces gas. The gas is carbon dioxide.
ART

Happy visual signs

There are surprisingly many prohibitory signs in our environment. They are designed to guide our actions, guarantee our safety and prevent harmful acts.

Can you imagine visual signs that would encourage positive action? First discuss what you would like to encourage people near you to do and then design a sign. Put it in a prominent place!

Poetry rap

An inspiring way to introduce children to the world of poetry is to combine poems with music. You can use existing music or produce new music together with the children. You can discuss the atmosphere created by poems and music and how the selection of music can support the atmosphere, and how it can be even surprising.

Drawing logos

First discuss what logos are and where and why they are used. Find logos in your surroundings – there may be surprisingly many!

Try to draw familiar logos from memory and compare the drawings. If you do not want to use commercial company and product logos, you can use other ones, such as cities you know, the police or even a hospital.

You can make logos into a game: cut logos out of newspapers or magazines and product packaging and guess what they relate to. Discussing and exploring different logos is part of multiliteracy.

Studying facial expressions

Sometimes, spoken language does not communicate everything that a person is thinking – facial expressions can say more than words. A multiliterate person is able to interpret gestures and facial expressions in addition to what they hear. The following task enables you to work with a child to consider how different facial expressions are formed and what they mean. Go through facial expressions that communicate the following emotions: happiness, joy, sorrow, anger, and fear.

Draw some blank faces on a piece of paper. A simple drawing app on a tablet can also be used for this. The facial features can be modelled on the other person or by looking in a mirror. Together, analyse the faces and discuss which parts of the face move when a certain expression is formed. Draw different faces on the paper or tablet computer. Discuss the meaning of each expression by assigning a word to each face. The meaning of the word will most likely change when it is said with a different facial expression. If you are using a smartphone, you can study facial expressions on messaging apps that have a wide variety of different emojis representing facial expressions.
STORIES

Happens at night
This picture can help children to invent their own stories. We all have many different stories to tell. One picture can inspire many stories, as many as there are those telling stories.

A tree in the meadow
What do we know, what can we guess? Reading the picture improves attentiveness and power of deduction as children make statements and discuss if these can be said on the basis of what is shown in the picture.

Examples of claims:
- It is summer.
- Birds are building nests.
- There are flowers in the meadow.
- The tree in the picture is old.
- There are four white birds.
- One bird decided to fly away.

Funny town

WHO IS PEEKING OUT IN THE PICTURE? WHY IS THE PERSON HIDING?
This task is an example of how to support the development of multiliteracy skills in children between the ages of 0 and 8. This task is intended for a child (or children) together with an adult. If the children can already read, they can read the questions and think of answers to them. The answers turn into a story. The adult can help the children to develop the story by asking additional questions.

If the children cannot read, you can discuss the picture and create the story together. The adult’s role is not to say things on behalf of the children but to encourage them to explore the picture and find clues for the events in the story.

The picture can also be read as a map, and the children can discuss where Funny Town is located and what they can tell about it from the picture. Which features are familiar, which ones are strange? What are the residents like, what do they eat, what kind of parties do they have? Children can also be encouraged to discuss the picture in the framework of emotions and senses. Is the town a scary place? Would you like to live there? What would it be like to walk around the town? What kind of sounds would you hear, what smells would you experience?

The adult can also ask the children what text they think would appear on the picture if it was a postcard. Who sent it and why? Or, if the picture was in a travel ad, what kind of holiday would it advertise? Would it say “Have a funny holiday in Funny Town!”? What would happen next?
Using Moominvalley to improve multiliteracy skills

The purpose of this activity package was to use the stories of Moominvalley and the film Moomins and the Winter Wonderland as a common framework for educational activities to enhance multiliteracy skills among all the children in the nursery. Exercises promoting multiliteracy skills were expected to enhance the formation of groups, improve the children’s social skills and increase their interest in reading books.

The activity package was designed in collaboration with researchers and teachers in early childhood education working with groups of 4 and 5 year olds. It was decided that the activities would be carried out during relatively short workshops when the children had small group activities scheduled. We designed the exercises in a process whereby discussing one exercise guided us in the design of the next one. The design was determined by the children’s various requirements and interests, and particular attention was paid to the need for support in verbal expression, working together and focusing on the task at hand. The groups worked on the workshop themes between the actual workshops.

We began exploring the Moominvalley stories through story-based play. The children were especially fond of this activity. We discussed the story in The Book about Moomin, Mymble and Little My, in which Moomin and The Mymble go searching for Little My. We built a set mainly from materials we found at home and at the nursery and a few essential materials that we had to buy.

All the children in the nursery were taken to the cinema as a group. We welcomed the children at the cinema and we all enjoyed the story together. The children returned to the nursery to continue their day with their usual rest and outdoor activities.

We then explored the children’s experiences of the film and the process of film-making by creating a Moominvalley set. In addition to arts and crafts materials, we also used spices and dried foods to add to the multi-sensory aspects of the task.

The next two workshops focussed on information and communication technologies. In the first one, we used the applications Green Screen and Photo Layers to place Moominvalley characters in imaginary situations, and in the second one, we made a short stop motion animation.

We made glow-in-the-dark Hattifatteners glove puppets, which the children could play with and which can also be used as teaching aids.

Text: Satu Valkonen

On participating in MOI:

“Our preschool group participated in the MOI project organised by the University of Helsinki. The main themes were stories and science. The science sessions organised by the university and the Whisper of the Spirit materials supported topics that we were dealing with in our group, such as nature and space.

We had made models of photosynthesis from arts and crafts materials, found colours in nature and did a research project on chlorophyll to see the autumn colours on leaves. We practised making hypotheses and interpreting results. The session focused on mixing colours, which directly related to and enhanced our experiences and topics. Mixing vinegar and baking soda in a bag also made carbon dioxide visible, it was wonderful to see what people exhale and plants inhale. The Whisper of the Spirit material, in turn, introduced imaginary and cultural elements to our experiences in nature. Tapio’s kingdom, the ruler of the forest, mythical creatures and spirits of the forest were the main features in our play. We practised important research and deduction skills through play and insight as these support the development of memory, attention span, critical thinking and listening and observation skills.

We had also learned about space, the planets, rockets and the North American Space Administration NASA’s operations for a month. We made our own rockets, which, as a grand finale, we launched into the sky using vinegar and baking soda. We were inspired by the science session, during which we practised launching rockets using the same method. Practice makes you perfect.

The educational models of the MOI project support the teaching described in the new syllabus, which emphasises wide-ranging knowledge, phenomenon-based learning and project work. The material provides the teacher with the tools to explore and ask questions about the surrounding world through fairy tales, mathematics and science. The tasks and the cards help children to observe, think, invent and experiment for themselves.

The MOI project materials can also be used in the assessment of operations. Such an assessment can help to improve the quality of early childhood education, identify the strengths of the operations, highlight areas for improvement and develop the operations.

New phenomena and projects are already waiting for us: next, we will be exploring the Baltic Sea and the Arctic region. We will approach the topics by means of play, imagination, inquisitiveness, stories, culture, science, research, sustainability and recycling. It is essential that the children take part in protecting their environment through experiential, activity-based, insightful and active exploration so that respect for nature and sustainability become part of their values. We are learning to take care of our environment together”.

(Preschool teacher)
Support for the implementation of the syllabus:

“Of course, I think so just according to these new things right now, this overall thinking that you have got in many different things. There’s everything from learning about colours and like art to stories and the language. It will probably be all of this up maybe to yourself, to us adults that how much we support the children and give them different options and kind of lead them on the right track that otherwise maybe it would be quite so to speak small but as an adult you have to check up literature for it.”

(Preschool teacher)
PICTURES AND ILLUSTRATIONS

Pictures

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“I cannot take it – there are so fun things in this book”
This book has been written for all those adults who are interested in promoting young children’s multiliteracy skills.

We gave this book the title *Playful Parts: The Joy of Learning Multiliteracies*. “Playful Parts” is a metaphor that we use to encourage children and adults to use their imagination and creativity in teaching and learning multiliteracy skills. Playful Parts are open to pedagogical interpretation and can be applied in a variety of ways to meet the needs of particular children, situations and circumstances. They can be extensively used in different settings, such as, nurseries, schools, libraries, science centres, museums and homes.

We hope that Playful Parts will come to life in a variety of forms when applied to activities participated in by adults and children and that they generate new approaches to enhance the joy of teaching and learning multiliteracy skills.