

Creative Story-Tellers

SDG in ECEC Framework



Promoting children's understanding of
sustainable development through multimodal story-telling
in Early Childhood Education and Care (ECEC)

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1 Introduction

1.1 About this document

Early Childhood Education and Care (ECEC) systems in Europe are shaped by diverse cultural, historical, and policy contexts, with governance varying between central, regional, or local levels. Despite these differences, there is a shared understanding that the early years of a child's life are critical for their overall development, laying the foundation for lifelong learning. Integrated and split ECEC systems prioritize quality standards in staff qualifications and learning environments, ensuring children's holistic cognitive, social, and emotional growth.

This document represents an initial step within the **Creative Storytellers** project, designed to build capacity among the project team and educators by simplifying the complexity of the United Nations' 17 Sustainable Development Goals (SDGs) for early childhood settings. The aim is to explore how these abstract global challenges, such as sustainability, equality, and peace, can be made accessible to young children through storytelling and creative educational approaches.

Storytelling is highlighted as a powerful tool for helping children understand and engage with the SDGs. By allowing children to create their own narratives and stories, educators can foster early awareness of global issues while nurturing critical thinking about the world they inhabit. As part of the Creative Storytellers project, the next phase will involve developing training programs and producing supporting documents to equip educators with practical tools and methodologies for effectively integrating the SDGs into early childhood education.

1.2 Methodology

This document analyzes the integration of the SDGs into ECEC using a structured approach to simplify these global goals. By focusing on their relevance to young children's well-being and development, the analysis helps educators identify key educational topics and challenges for each SDG. The framework is divided into three sections for each SDG:

- **Introduction to the SDG:** This section outlines the core objective of the SDG, its relevance to ECEC, and how it contributes to children's holistic well-being.
- **Educational Topics and Challenges:** It identifies key themes that can be incorporated into ECEC curricula. Educators are introduced to methods which can explain the SDG's importance to young children and are made aware of potential obstacles, including cultural or social factors that may affect its implementation.
- **Activities, Methods, and Tools:** This section offers practical examples of engaging activities, suitable teaching methods, and resources—such as successful initiatives, projects, but also books, games, or apps—that can support educators in delivering SDG-related content.

By following this structured analysis, the document aims to support educators in developing a deeper understanding of the SDGs and their integration into early learning environments. The **Creative Storytellers** project believes that by embedding the SDGs into ECEC through creative storytelling and hands-on activities, children can begin to understand their role in contributing to a more sustainable and just world.

2 The 5Ps framework

The 2030 Agenda for Sustainable Development unites three key areas where environmental and living standards are to be improved: the ecological, the social, and the economic domains. This classification acknowledges the diverse challenges that our world faces today and emphasizes the importance of promoting the well-being of the planet and the climate, alongside advancing social development and economic progress. Against this backdrop, five main themes, also known as the five "Ps," have been defined to create a comprehensive action plan (DemokratieWEBstatt, n.d.). These are Well-being of all people (People), Protection of the planet (Planet), Sustainable prosperity and progress (Prosperity), Peace (Peace), and Enhanced global cooperation (Partnership).

2.1 The Five "Ps" in Detail

People: The 2030 Agenda emphasizes the goal of ending poverty and hunger in all their forms and ensuring that all people can realize their potential in dignity and equality within a healthy environment. This includes access to work, housing, nutritious food, justice, and the opportunity to participate in a peaceful and secure society. Efforts under this theme focus on providing quality education, achieving gender equality, and ensuring healthy lives for all.

Planet: Protecting the planet is central to efforts to safeguard it from exploitation and pollution. Sustainable consumption and production, the management of natural resources, and actions against climate change are crucial to securing the livelihoods of current and future generations. This involves initiatives to reduce waste, promote renewable energy, and conserve biodiversity. The focus is on creating resilient societies that can adapt to environmental challenges.

Prosperity: Promoting economic, social, and technological progress in harmony with nature aims to ensure that all people can enjoy a prosperous and fulfilling life. A stable economic system that considers ecological factors and respects human rights is essential for sustainable prosperity. This includes fostering innovation, building resilient infrastructure, and ensuring sustainable industrialization that benefits everyone, particularly the most vulnerable populations.

Peace: Peace is a fundamental prerequisite for sustainable development. The agenda seeks to foster peaceful, just, and inclusive societies that are free from fear and violence. Without peace, sustainable development is not possible, and without sustainable

development, there can be no lasting peace. This theme covers efforts to promote justice, ensure effective governance, and build accountable institutions at all levels.

Partnership: Achieving the goals of the 2030 Agenda requires a global partnership. This partnership should be based on enhanced global solidarity and particularly address the needs of the poorest and most vulnerable. All countries, stakeholders, and people are called upon to actively participate in the implementation of the agenda. This involves strengthening international cooperation, mobilizing financial resources, and promoting the transfer of technology and capacity building to support all countries, especially developing ones, in achieving sustainable development.

The five "Ps" of the 2030 Agenda provide a structured framework to achieve the 17 Sustainable Development Goals and thereby create a sustainable future for all. By integrating social, ecological, and economic considerations, the agenda aims to address the root causes of poverty and inequality, protect the planet, and ensure prosperity and peace for all people. The success of this ambitious plan hinges on the collective efforts and strong partnerships at all levels of society, from local communities to global institutions.

The agenda with its 17 goals (and 169 sub-goals) is very comprehensive and in some cases very detailed. It contains many demands and sub-items that are not relevant to elementary education. To grasp the essence, the central statements and the structure of the SDGs, it is sufficient to put the (core elements) of sustainability into a meaningful context; this is done by naming the 5 Ps: no area is lost through this reduction, on the contrary, the umbrella terms make it easier to remember the content and the logic behind the goals becomes visible: people, nature, a good life for all, peace and global cohesion are at the center of the sustainability debate.

2.2 Education for Sustainable Development and Global Education and the relevance of the SDGs in Early Childhood Education

Values formation is described and experienced as an important part of kindergarten life. The values of the teachers play a major role here, as these are addressed indirectly via norms and rules in the interaction with the children and directly in the teamwork and work with parents. What is important to me, what ideas we consider important, is the basis for shaping our own lives. As a society, we also need values that we strive for together: these include social values (respect, equality, justice, ...) as well as behavior towards the environment (respect for resources, animal rights, ...). Many of the topics contained in the SDGs are directly related to values that should be taught in kindergarten anyway and are enhanced by explicitly addressing them.

The publication explains two concepts of value formation: Implicit value formation, which takes place by example through personal relationships in everyday kindergarten life and in social relationships through role models, and explicit value formation, when values and norms are spoken about directly, rules are worked out together and discussed together. Both

concepts complement each other and enable implicit experiences to be reflected upon and role models to become effective (Hildebrandt et Preissing, 2016, in :Werte leben, Werte bilden.).

The common understanding of values in kindergarten has its basis in the common EU Treaty. This states **respect for human dignity, freedom, democracy, equality, the rule of law, respect for human rights, non-discrimination, tolerance and justice, solidarity and equal rights for all genders** (Treaty on European Union, Art. 2). The Austrian Federal Constitution defines democracy, humanity, solidarity, peace and justice, tolerance as the basic values of schools - which can also apply to kindergartens. **Children should also acquire the skills to take responsibility for themselves and their fellow human beings, the environment and future generations - adapted to their level of development and as co-constructors of their own development.**

Due to their age, pre-school children are not able to judge the relevance of these many goals and topics to their lives and their future. Nevertheless, they can visualize the concepts of the 5 P's: they know and feel what people need, in most cases they are empathetic towards animals and interested in nature. They experience first-hand what it feels like to be in conflict or to interact peacefully with one another and enjoy socializing within groups of children that are often very diverse or multicultural. They can therefore understand that all of this is relevant for a good life on the planet – at least in their current everyday lives.

The question: **'What do you need to be well?'** and by extension: **'What do all children and all people in the world need?'** provides a good introduction to start a conversation about needs - from there it is then easy to move on to the 5 Ps and introduce these topics to the children. Working on the sustainability agenda in kindergarten makes it possible to transfer personal experiences to a wider context - educational programs that are as concrete as possible are a good prerequisite for this. Whether topics are offered by the teachers or are selected in a participatory manner according to the perceived interests of the children is another dimension that can be considered.

It would also be **important to involve parents** and familiarize them with the sustainability activities and the goals pursued by the teachers. They should be told why the kindergarten is dealing with the topic of *sustainable consumption* or *the marine habitat*, for example. **Parents should also be involved in the responsibility for these topics and be prepared that children might want to talk about that at home.**

3 People

3.1 SDG 1: No poverty

3.1.1 Introduction to the SDG



No Poverty aims to end poverty in all its forms everywhere. It seeks to eliminate extreme poverty, defined as living on less than \$1.25 a day, and reduce by half the proportion of men, women, and children living in poverty by 2030. This goal also focuses on implementing social protection systems, ensuring equal access to economic resources, and building resilience for the poor and vulnerable against economic, social, and environmental shocks and

disasters.

SDG 1 is closely linked to ECEC because early interventions can significantly reduce the risk of poverty in later life, support equitable access to opportunities, and contribute to broader societal and economic development. Access to quality early childhood education and care is a powerful tool for breaking the cycle of poverty. Children from impoverished backgrounds who receive early education are more likely to perform better in school, earn higher wages, and enjoy better health as adults. This leads to long-term social and economic benefits, reducing the likelihood of living in poverty as adults. Poverty often limits access to quality education and care. By addressing poverty, SDG 1 helps ensure that all children, regardless of socioeconomic status, have access to early childhood education, providing a level playing field and fostering social equity.

Children living in poverty are more likely to face malnutrition, stress, and a lack of stimulation, which can impair cognitive, emotional, and physical development. Quality ECEC programs help mitigate these effects by providing nutritious meals, a safe environment, and stimulating activities that promote holistic development. Addressing poverty also supports parents and caregivers, which is critical for effective early childhood education and care. When families have the resources they need, they can better support their children's learning and development, both at home and through engagement with ECEC programs.

Investing in early childhood education and care can lead to a more educated and skilled workforce, which is essential for long-term economic growth and poverty reduction. Quality ECEC helps to lay the foundation for a more prosperous and equitable society.

By reducing poverty, SDG 1 creates the conditions necessary for young children to thrive physically, cognitively, emotionally, and socially, laying a strong foundation for their future well-being and development. Poverty is often associated with malnutrition, inadequate healthcare, and poor living conditions, which can severely impact a child's physical development. SDG 1 aims to improve access to nutritious food, clean water, and healthcare services, ensuring that children have the necessities for healthy growth and development. Children living in poverty are at a higher risk of cognitive delays due to a lack of access to stimulating environments and educational resources. Reducing poverty can lead to better

access to quality early childhood education, books, and learning materials, which are crucial for cognitive development during the early years.

3.1.2 Educational Topics and Challenges

Incorporating themes related to the No Poverty SDG into the Early Childhood Education and Care (ECEC) curriculum helps young children **develop an understanding of social responsibility, empathy, and community involvement** from an early age. Educators can guide children in building a foundational understanding of poverty and social responsibility, setting the stage for them to become compassionate and engaged citizens. Below are specific themes and activities that can be integrated into the ECEC curriculum:

Basic Needs and Well-being

- **Theme:** Understanding **basic needs** like food, shelter, and clothing.
- **Activities:** Discussing what children need to be happy and healthy, and recognizing that not everyone has the same access to these needs.

Empathy and Helping Others

- **Theme:** Teaching children to recognize and **understand the needs of others**.
- **Activities:** Storytelling, role-playing, and discussions on how small actions can make a difference.

Community and Sharing

- **Theme:** Understanding the **concept of community** and the importance of sharing resources.
- **Activities:** Sharing toys or snacks, discussing how communities support one another, and group projects focused on helping others.

Diversity and Inclusion

- **Theme:** Learning about **diversity** and **inclusion**.
- **Activities:** Reading stories about children from different backgrounds, discussing the value of differences, and promoting inclusion.

Fairness and Justice

- **Theme:** Introducing **concepts of fairness** and justice.
- **Activities:** Simple games exploring fairness and discussing what is fair or unfair in daily situations.

Economic Awareness

- **Theme:** A basic introduction to money and the **concept of limited resources**.
- **Activities:** Playing with toy money in a pretend store and discussing the importance of saving.

Sustainability and Resource Management

- **Theme:** Teaching children the importance of **managing resources**.
- **Activities:** Recycling projects and discussions on not wasting food or other resources.

Caring for Others

- **Theme:** Fostering responsibility and **care for others**.
- **Activities:** Participating in charity projects and creating art projects that express care for others.

Understanding Poverty

- **Theme:** Age-appropriate discussions about **poverty** and its impact.
- **Activities:** Using stories and visual aids to explain poverty and encouraging children to think of ways to help.

Global Awareness

- **Theme:** Introducing the idea that poverty exists globally.
- **Activities:** Exploring maps and pictures from around the world and discussing how children in different countries live.

Educators play a crucial role in explaining the importance of SDG 1 by fostering empathy, social responsibility, and a sense of community. It's essential to introduce the concept of poverty in terms young children can understand. For example, a teacher might say, "Imagine if you didn't have enough toys to play with or food to eat every day." By connecting poverty to their own experiences, children can better grasp the concept.

Relating poverty to everyday experiences, like sharing snacks or toys, is an effective strategy. Teachers can remind children of instances when they helped others, reinforcing the importance of sharing and kindness. This approach makes the concept of poverty more relatable and encourages positive behaviors like empathy.

3.1.3 Activities, Methods, and Tools for this SDG

Storytelling is an effective tool in early childhood education, especially for explaining poverty. Through stories, children can learn about characters who face challenges related to poverty or who help others, which makes the concept relatable and age appropriate. For example, a story about a bear without enough food for winter and how his friends help can illustrate poverty in an engaging way.

In addition to storytelling, role-playing and interactive activities help children internalize these lessons. Educators can create scenarios where children share resources or figure out how to help someone in need. For instance, a teacher might organize a role-playing game where children decide how to divide a small amount of food fairly. These activities not only make learning fun but also develop a sense of fairness, empathy, and community.

Visual aids, such as pictures, drawings, or videos, can make abstract concepts like poverty more tangible. Showing images of children from around the world and explaining that some lack necessities helps children visualize poverty and understand the importance of helping others. Connecting everyday actions to this broader concept can reinforce the lessons. For instance, educators can teach children that not wasting food, being kind, or donating toys are ways to help reduce poverty. A message like "When you don't waste food, you're helping make sure everyone has enough" can help children see how their actions matter.

Teaching fairness and justice is another important aspect of SDG 1. Educators can discuss fairness with examples relevant to the children's lives, such as explaining that it's unfair if one person has too many toys while another has none. This helps children develop a sense of justice and why it's important to ensure everyone has what they need. Encouraging empathy is also key to helping children understand SDG 1. Educators can ask children to imagine how they would feel without enough resources and how they can help others. A teacher might ask, "How would you feel if you didn't have any food? How can we help people who feel like that?" This reflection fosters empathy and a desire to help.

Teaching children that communities work together helps them understand their role in something larger. A teacher might say, "In our community, we help each other, just like we all clean up together after playtime." This reinforces the idea that everyone has a role in creating a fair and just society.

Educators also teach about basic needs, such as food, water, and shelter, to show why everyone must have access to these essentials. Themes of fairness and equality are emphasized, alongside the importance of helping others. Teaching about the responsible use of resources, such as not wasting food, ties into sustainability and global citizenship, helping children understand that poverty is a global issue and their actions can contribute to making a difference worldwide. These lessons not only help children understand poverty but also inspire values of empathy, fairness, and responsibility, laying a foundation for a more just future.

Activities:

- **Storytelling and Discussions:** Share books and stories on poverty, encouraging discussions on how to help.
- **Empathy Projects:** Engage children in creating care packages or fundraising for local shelters to promote understanding of others' needs.
- **Role-Playing Scenarios:** Let children act out roles such as families facing economic challenges or community helpers, to better understand poverty and social support.
- **Service Learning:** Involve children in community service projects like volunteering at food banks or organizing charity drives.
- **Simulations:** Use games to show how economic challenges impact families, such as budgeting exercises.
- **Global Awareness Projects:** Explore how poverty affects people worldwide through projects that showcase global poverty statistics.

Teaching Methods:

- **Story-Based Learning:** Use storytelling to explain poverty in a relatable way.
- **Interactive Discussions:** Facilitate discussions that allow children to express their thoughts and questions on poverty.
- **Visual Aids and Media:** Use engaging charts, videos, and images to present poverty in an accessible way.
- **Experiential Learning:** Involve direct experience through simulations or community service to help children grasp poverty concepts.
- **Collaborative Learning:** Encourage teamwork through group activities focused on problem-solving around poverty.

Tools and Resources:

Books

- **The Name Jar* by Yangsook Choi** – A story about a young girl facing cultural differences and poverty.
- **The Sneetches and Other Stories by Dr. Seuss** – Addresses themes of inequality and fairness.

Games

- **Monopoly** – Can be modified to discuss economic disparities.

Technology

- **Interactive Apps:** Apps like [*Fairy Tales*](#) by iApps4U can teach empathy and inequality.
- **Educational Videos:** [National Geographic Kids](#) offers videos on global issues, including poverty.

Online Resources

- **UNICEF's No Poverty Educational Resources:** Lesson plans and materials to help young learners understand poverty.
- **Global Citizen:** Provides articles and resources on poverty and how children can contribute to change.

3.2 SDG 2: Zero hunger

SDG 2, Zero Hunger, focuses on eradicating hunger, achieving food security, improving nutrition, and promoting sustainable agriculture by 2030. It emphasizes ensuring everyone, especially vulnerable populations, has reliable access to nutritious food year-round. For Early Childhood Education and Care (ECEC), proper nutrition is essential for children's physical, cognitive, and emotional development. By educating young children about healthy eating and sustainable food practices, ECEC plays a vital role in fostering lifelong habits that align with the broader goals of food security and sustainability.



3.2.1 Introduction to the SDG

The Zero Hunger Sustainable Development Goal (SDG) aims to eradicate hunger, achieve food security, improve nutrition, and promote sustainable agriculture by 2030. Its goal is to ensure reliable access to sufficient, nutritious food year-round, especially for vulnerable populations, including children. Beyond food availability, it emphasizes sustainable agricultural practices and enhancing small-scale farmers' productivity to support long-term food security.

SDG 2 is highly relevant to Early Childhood Education and Care (ECEC) because proper nutrition is essential for young children's physical growth, cognitive development, and overall well-being. In many ECEC settings, meals and snacks are vital to children's health and development. Ensuring these are nutritious directly supports their growth and learning abilities, while ECEC programs also provide a platform to educate children about healthy eating habits, establishing lifelong positive dietary practices.

Incorporating discussions about food security and nutrition into ECEC curricula raises awareness among children about food inequality, fostering empathy and an understanding of equitable food access. Additionally, ECEC settings can introduce concepts like sustainable agriculture and environmental stewardship, promoting awareness of how these practices contribute to long-term food security.

The Zero Hunger SDG plays a key role in supporting children's overall development. Adequate nutrition strengthens immune systems, enhances cognitive function, and supports physical growth. Conversely, nutritional deficiencies can impair cognitive abilities and delay development. Beyond physical health, proper nutrition enables children to engage in learning activities and develop critical thinking skills. A stable food environment also promotes positive emotional development, while food insecurity can cause stress and anxiety, impacting children's ability to focus in educational settings.

Educating young children about healthy eating and sustainable food practices is essential for fostering informed choices that support long-term health and sustainability. By incorporating these lessons into ECEC programs, educators help shape a healthier, more responsible future generation.

3.2.2 Educational Topics and Challenges

Incorporating the Zero Hunger SDG into Early Childhood Education and Care (ECEC) programs is essential for fostering an early understanding of food security and nutrition. Specific themes related to this SDG can be integrated into the ECEC curriculum, including:

Basic Nutrition: Educators can teach children about the essential nutrients needed for healthy growth and how different foods contribute to their well-being. This includes lessons on the importance of fruits, vegetables, and whole grains.

Food Sources: Helping children understand where food comes from—whether grown in gardens or bought from stores—and introducing the processes involved in food production.

Sustainable Practices: Educators can discuss sustainable farming and the importance of reducing waste and conserving resources to ensure food availability for the future.

Global Food Security: Introducing children to the challenges some communities face regarding food availability can help develop empathy and a global perspective.

Key messages for early learners include the importance of everyone having access to nutritious food, the value of sharing and helping others, and the role of sustainability in food practices. Emphasizing fairness and kindness helps children understand why no one should go hungry.

However, integrating this SDG into ECEC programs presents challenges. Limited resources and training for educators may hinder the effective teaching of food security and nutrition. Additionally, time constraints in the curriculum can make it difficult to cover these topics without overwhelming existing content.

Cultural and social factors also play a significant role in how hunger and nutrition are taught. Educators must navigate cultural beliefs about food and address socioeconomic disparities sensitively. Discussions should be inclusive and respectful of diverse backgrounds.

When addressing this SDG with young children, educators face limitations. Abstract concepts like global food security may be hard for young children to understand, so simplifying these ideas without losing their meaning is crucial. Children aged 3 to 6 years are typically ready to engage with these concepts through simple explanations and hands-on activities, making this the most effective period to introduce the core messages of the Zero Hunger SDG.

3.2.3 Activities, Methods, and Tools for this SDG

Storytelling, visual aids, and interactive activities can illustrate how everyone needs enough healthy food to grow and learn. Activities such as gardening, cooking simple recipes, or visiting a local farm can make these concepts more tangible.

Activities

1. **Interactive Storytelling:** Use stories and books about food security and hunger. For example, "The Empty Pot" by Demi or "The Very Hungry Caterpillar" by Eric Carle can introduce concepts of food and growth.
2. **Gardening Projects:** Set up a small garden or even container gardening in the classroom. This hands-on activity helps children understand where food comes from and the importance of growing it sustainably.
3. **Cooking Classes:** Simple cooking activities can teach children about nutrition and the effort involved in preparing meals. Recipes can include ingredients from different cultures to highlight global food diversity.
4. **Food Waste Awareness:** Implement activities that track and minimize food waste in the classroom. Discussions can include why food waste is a problem and how it affects people around the world.
5. **Role-Playing Games:** Create scenarios where children role-play different characters (farmers, chefs, etc.) to understand various perspectives in the food supply chain.
6. **Global Food Maps:** Use maps to show where different foods come from around the world. This helps children understand global food distribution and scarcity issues.

Teaching Methods

1. **Project-Based Learning:** Engage children in projects that address real-world problems related to hunger. For instance, they could design a community garden project or a food drive.
2. **Experiential Learning:** Hands-on activities, such as cooking or gardening, allow children to experience concepts directly, which helps reinforce learning.
3. **Visual Aids:** Use charts, videos, and infographics to illustrate data on hunger and food distribution. Visual aids make abstract concepts more tangible.
4. **Storytelling and Media:** Incorporate stories, videos, and multimedia resources that discuss hunger and food security in an age-appropriate manner.
5. **Collaborative Learning:** Encourage group work and discussions about hunger, fostering teamwork and communication skills while exploring the SDG.

Tools and Resources

1. **Books:**
 - "The Empty Pot" by Demi: A story that teaches about honesty and growth. [Amazon Link](#)
 - "One Hen: How One Small Loan Made a Big Difference" by Katie Smith Milway: A story about how a small investment can help alleviate poverty and hunger. [Amazon Link](#)
2. **Games:**

- **"Hunger Games: The Board Game"**: While not directly about the SDG, modified versions of games can be used to teach about food distribution and scarcity. [Board Game Geek Link](#)
 - **"Farm to Table" Activity Kits**: Educational kits that simulate farm-to-table processes. [Farm to School Link](#)
3. **Technology:**
- **Interactive Apps**: Apps like "iBiome-Wetlands" or "Toca Kitchen" teach about ecosystems and food preparation in a fun, engaging way. [iBiome-Wetlands Link](#) [Toca Kitchen Link](#)
4. **Online Resources:**
- **United Nations' Zero Hunger Resources**: Includes lesson plans and educational materials tailored for young learners. [UN Zero Hunger Link](#)
5. **Educational Videos:**
- **National Geographic Kids**: Videos on how food is grown and distributed can help children visualize these concepts. [National Geographic Kids Link](#)

3.3 SDG 3: Good health and well-being

3.3.1 Introduction to the SDG



SDG 3 focuses on ensuring healthy lives and promoting well-being for people of all ages. Its core objectives include reducing child mortality, improving maternal health, combating diseases, and promoting mental health. This goal is deeply relevant to Early Childhood Education and Care (ECEC) as it addresses the critical importance of health in the early years, which is foundational for a child's overall development.

In ECEC, promoting health and well-being can be achieved through structured health education, daily habits like hygiene practices, and fostering emotional well-being through a supportive environment. Nutrition, physical activity, and mental health initiatives all contribute to a child's readiness to learn and grow.

By incorporating SDG 3 into ECEC programs, educators can provide children with the tools they need to develop lifelong healthy habits. For instance, daily routines that focus on handwashing, balanced meals, and exercise support physical health, while emotional development can be fostered through mindfulness activities, conflict resolution skills, and creating a safe, nurturing environment. Proper health care and early education interventions can prevent developmental delays, promote resilience, and ensure that all children, regardless of socioeconomic status, have the best start in life.

In addition, educating children about healthy lifestyles early on contributes to reducing health inequalities in the long term, improving community health, and ensuring that children are able to thrive both academically and socially. SDG 3 in the context of ECEC is vital for fostering a generation that values health, well-being, and the importance of a balanced lifestyle.

3.3.2 Educational Topics and Challenges

Health plays an important part in human lives. Healthy children can go to school, healthy adults can go to work in order to earn money, become economically independent and enjoy their leisure time. Therefore, good health and well-being goes hand in hand with fighting poverty and is identified as a human right. The three main themes of this SDG can be summarised as:

Prevention of Illness

- Form an understanding of good hygiene and how to lead a healthy lifestyle including physical and mental health. This includes access to physical exercise as well as the knowledge and consumption of healthy quality food.

Strong Health Institutions

- Children should begin to understand the importance of accessible healthcare for all. Even at a young age, discussions can be simplified to help them grasp the value of health services.

Autonomous planning of sexual reproduction and family

- While this theme is more suited to older children, it highlights the importance of bodily autonomy and making informed choices.

Looking at these main themes it becomes clear that most concepts and goals of the SDG „Good Health and Well-being“ are quite difficult to grasp for young learners. Subjects like „Strong health institutions“ and „Autonomous sexual reproduction“ tailor better to older age groups. However, the goal of teaching SDG 3 in ECEC is to help children **identify their physical and mental needs**, while developing strategies for self-care and resilience. A happy and fulfilled individual has the energy to contribute to their community and live with a sense of purpose.

According to Early Years Curricula it makes sense to focus on good health and well-being in its most basic understanding. Therefore, the following key concepts for ECEC can be identified:

Physical Health

- Encouraging a positive relationship with physical activity and developing motor skills through stimulating environments. Getting to know their own body, develop a positive relationship to physical exercise as well as having stimulating and challenging surroundings, provided by the early years teachers for the children to develop good motor skills and body coordination.

Healthy Food and Nutrition

- Teaching children about healthy food choices and engaging them in cooking and food preparation, as opposed to relying on processed foods. Learn about healthy food and less healthy options (food pyramid) as well as cooking and preparation of food.

Mental Health

- Emphasizing the importance of friendship, purpose, autonomy, and resilience to foster good mental health. Identifying important factors that contribute to good mental health as friendship, the feeling of purpose, autonomy and success, building confidence and resilience, etc.

Self-awareness

- Developing self-awareness by encouraging children to communicate their feelings, recognize changes in their body, and learn how to seek help when needed, such as tending to small wounds or talking to a trusted adult about problems. It is important for them to foster reflection skills, being able to communicate about one's feelings as well as knowing one's body and understanding if something feels different.

The focus, teaching the third SDG in early years institutions therefore lies on the children being able to **identify their own needs** (physical as well as mental) and **develop strategies for selfcare and resilience**. Only if humans are happy and fulfilled, they have the energy to contribute to their environment and community and lead a happy lifestyle with the feeling of purpose.

Cultural and social backgrounds significantly influence the perception of a healthy lifestyle. Not all societies have the time or financial resources for physical activity or access to organically sourced foods. Furthermore, the COVID-19 pandemic has transformed global perspectives on hygiene and the importance of maintaining sanitation standards. In Western societies, hygiene practices have become increasingly important to protect children from diseases.

By addressing these topics, educators can promote healthy habits and well-being, equipping children with the tools they need to maintain both physical and mental health in a rapidly changing world.

3.3.3 Activities, Methods, and Tools for this SDG

Physical activity, movement, exercise, nutrition, and mental well-being are integral to the early childhood curriculum. Although exercises like gymnastics or nutrition lessons are straightforward, there are numerous creative ways to incorporate storytelling to teach SDG 3.

Activities:

1. **Movement Stories:** Telling a story that is accompanied by movement like i.e. imagining to be a small seed that carefully wakes up in spring and grows very slowly, experiencing wind and rain etc. until it becomes a big tree. The same method can be used with music pieces that fall under the umbrella of programme music. This includes compositions that inspire the mind to see a certain story like Antonio Vivaldi's „The four Seasons“ or Camille Saint-Saëns „Carnival of the Animals“.
2. **Planned Physical Exercise:** The EC teachers create a landscape with different gymnastic apparatus that tailor to a theme-related setting, i.e. journey to the north-pole with climbing icebergs, jumping from ice patches to ice patches, feeding the polar bears (rings) with food (balls) etc.
3. **Going for theme-walks and excursions:** Going for walks with the children in a natural habitat, using story-telling and different tasks to be fully aware of the surroundings, i.e. can everybody find five different types of leaves and bring them together to form a pile of leaves. Every child can become a hedgehog, being covered with those leaves and has the opportunity to describe afterwards how they felt.
4. **Little Fruit-Detectives:** The children learn about healthy food, fruit and vegetables and set off on their own journey to find out about the different items of food, what their similarities and differences are, why they are more healthy than other options etc. Their findings can be documented and compiled in story and photo boards that will be discussed and presented during circle time in the kindergarten.

5. **Interviews about Self-Awareness and Self-Care:** At first the teacher can be the interviewer and ask the children one by one questions like: “How does it feel when you are happy/sad/angry/”etc., as well as “What cheers you up when you are sad or tired?” etc. Once the children have gained more experience, talking about their feelings, the children themselves can become the interviewer and film the interviews with an iPad or a similar digital tool. Practical answers, like “I like to smell something nice, hear a happy story, or take a relaxing bath” can be picked up through actual activities (creating perfumes, bath additives, writing a happy story etc.)

Teaching Methods:

1. **Storytelling through Movement:** Using stories, music or art as starting points for physical movement and dance.
2. **Project-based Learning:** Using topics as our body, feelings and emotions or food as starting points for large scale projects in class or throughout the whole kindergarten.
3. **Participation:** Using participation as an educational tool to give children agency of their learning environment, the power to shape their own learning outcome according to their interests and strengths and therefore build confidence in their own actions which strengthens resilience.

Tools and Resources:

1. Books:

- “I don’t want to wash my Hands” by Tony Ross.
- “Ruby’s Worry: A big bright Feelings Book” by Tom Percival.
- “Look inside your Body” by Louie Stowell and Kate Leake
- “This is how we keep healthy. For little Kids going to big School (First Skills for Preschool)” by DK.
- “Look inside Sports” by Rob Lloyd Jones and Stefano Tagnetti.

2. Websites and Apps:

- www.liederturnen.de (Ideas for physical activities)
- Super Stretch Yoga HD
- Fitoons
- <https://www.bzfe.de/bildung/material-fuer-kita-und-tagespflege/> (Healthy food and nutrition)
- <https://www.5amtag.de> (healthy food and nutrition)

3. Educational Videos:

- <https://youtu.be/dhpCdqOtuj0?feature=shared>

Creating healthy habits

- <https://youtu.be/pdjaxS4ME2A?feature=shared>

Wellbeing for children: Confidence and self-esteem

Project My Body and I – we stay healthy

This project was initiated by the kindergarten of the DSA (German School Athens) over the course of their 3-week summer holiday programme 2024. Using the Olympic Games as well as Football European Championship as starting points for discussions about physical health and well-being the educators explored this topic together with the children. The children have been working on identifying healthy food and healthy eating habits, exploring Yoga classes and different types of sports, crafting their own Olympic medals that they received after mini-Olympic Games at the end of the holiday programme and many more activities.



3.4 SDG 4: Quality education

3.4.1 Introduction to the SDG

Quality education is recognized as a powerful means for sustainable development and socio-economic progress (UNDP, n.d.). The core goal of SDG 4 is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all (UN, 2021). Its key targets include providing free and quality education at all levels, preparing children through early childhood development, ensuring equal access to technical and vocational education, and fostering employability skills.



Quality education is an education that promotes sustainability (Kemp & Sonter, 2021). In Early Childhood Education and Care (ECEC), quality education introduces children to essential values such as sustainability and democratic participation, fostering their holistic development. Neuroscience research highlights that early childhood is the ideal stage for instilling these values, as children's identities and critical thinking skills are shaped at this age (González-Alfaya et al., 2020). The malleability of young brains makes learning during this stage particularly effective and lasting.

Quality education in ECEC equips children with the skills they need for cognitive, socio-emotional, and moral development. It integrates a variety of subjects that address the needs of the modern world, such as nutrition, health, technology, and safety (Almqvist et al., 2014; Tekin, 2019). This holistic approach fosters confidence, resilience, and the understanding that children can be agents of positive change in society. Investing in Education for Sustainability (EfS) at an early age empowers children and secures their well-being, contributing to sustainable and democratic societies.

3.4.2 Educational Topics and Challenges

Incorporating the principles of quality education into Early Childhood Education and Care (ECEC) is essential to fostering lifelong learning and sustainability. "Sustainability" is not a separate subject but rather a way of thinking that should permeate the entire curriculum (Fengfeng & Yan, 2008). It includes environmental, economic, and socio-cultural dimensions (UNESCO, 2017a). Key themes for ECEC in this SDG include:

- **Well-being and Health Education:** Encouraging healthy lifestyles.
- **Foundational Literacy and Numeracy:** Building core educational skills.
- **Life Skills:** Teaching problem-solving, critical thinking, collaboration, digital skills, and social justice awareness.
- **Global Citizenship Education:** Promoting human rights, diversity, and global interdependence (UNESCO, 2017a).

ECEC programs introduce key concepts, such as **inclusion** ("everyone can learn"), **equity** ("we are different, yet equal"), **cooperation** ("together we can change the world"), and **active participation** ("engaged learners and sustainable practices") (Didham & Ofei-Manu, 2018).

Several challenges hinder the integration of SDG 4 into ECEC. Misunderstandings of "sustainability," lack of curriculum guidance, and insufficient teacher training pose significant obstacles (Maidou et al., 2019). Research shows that educators often underestimate children's ability to understand sustainability concepts, despite evidence to the contrary (Engdahl, 2015).

Cultural, social, and economic factors also affect how "quality education" is perceived. Cultural beliefs shape people's values and what they consider essential in education, while economic inequalities limit access to high-quality education (Otieno, 2008; Friedman et al., 2020). In some contexts, teachers may feel pressured to follow traditional methods or avoid complex topics like gender-sensitive education or environmental challenges, believing they are too difficult for young children to grasp (Furu & Valkonen, 2021).

Despite these challenges, children are naturally curious about global issues and can engage with sustainability concepts when they are presented in simple, relatable ways. Using everyday experiences, simplified language, and arts-based learning, teachers can foster children's understanding of sustainability and empower them as agents of change (Boyd et al., 2021; Hartwig, 2020).

3.4.3 Activities, Methods, and Tools for this SDG

To teach sustainability and quality education to children, a variety of effective methods can be used, including:

Activities:

1. **Arts-based Learning:** Incorporates different forms of art such as drama, painting, music, and storytelling (e.g., multimodal storytelling).
2. **Nature-based Learning:** Encourages learning through engagement with nature, such as outdoor play and exploration.
3. **Experiential Learning:** Involves "learning by doing," through role-playing or hands-on activities.
4. **Project-based Learning:** Children collaborate on projects related to SDG topics, fostering teamwork and critical thinking.
5. **Place-based Learning:** Involves engaging with the local community, such as working on community gardens.
6. **Inquiry-based Learning:** Promotes learning through questioning, reflection, and problem-solving, encouraging children to explore real-world issues.
7. **Play-based Learning:** Uses play as a method to reinforce learning, such as using dolls to role-play scenarios (Edwards, 2021).

These methods can be combined to create fun, engaging, and creative learning experiences for children.

Teaching Methods:

- **Blended Learning:** Combining various methods, such as storytelling through art or digital storytelling, helps maintain engagement and make learning more enjoyable.
- **Use of Technology:** Incorporating tools like tablets, interactive whiteboards, and apps can support activities such as digital storytelling, enhancing both collaboration and individual learning.

Tools and Resources:

- **Books:** *Koala Makes the Right Choice* by Sue Graves is a useful resource for teaching choices and consequences.
- **Toys:** Using persona dolls that represent diversity (e.g., a doll in a wheelchair) introduces the concept of inclusion.
- **Materials:** Patterned materials or flashcards can be used for numeracy and problem-solving.
- **Arts and Crafts:** Provide hands-on opportunities for children to express creativity while learning sustainability concepts.
- **Physical and Aesthetic Tools:** Especially useful in multilingual classrooms, these tools help promote inclusion and communication (Häikiö, 2020).

By integrating diverse activities and tools, teachers can help children develop a deeper understanding of sustainability and quality education in a way that is both accessible and engaging.

3.5 SDG 5: Gender equality

3.5.1 Introduction to the SDG



SDG 5, **Gender Equality**, emphasizes eliminating gender-based discrimination and stereotypes, ensuring equal opportunities and rights for all. Despite progress, gender inequalities remain prevalent globally, limiting access to education, health, and decision-making roles, particularly for women and girls. These inequalities are deeply rooted in societal norms that perpetuate harmful gender roles and power imbalances, affecting individuals' ability to fully realize their potential.

In Early Childhood Education and Care (ECEC), the introduction of gender equality is crucial, as early childhood is a key stage in the formation of social and cognitive patterns. Research shows that gender socialization begins as early as birth, with children internalizing gender roles and behaviors by age two and solidifying gender norms by age six. This makes ECEC a vital space for **challenging stereotypes and promoting equality** from a young age.

Incorporating gender equality into the ECEC curriculum helps children question and dismantle gender stereotypes, teaching them that their abilities and interests should not be limited by societal expectations. Boys can learn that it is acceptable to express emotions, while girls can understand their worth beyond traditional gender roles. Promoting gender equality in ECEC empowers children to envision a future free from the constraints of gender norms.

By fostering an inclusive environment, gender equality education in ECEC contributes to children's **overall well-being and sense of acceptance**. It helps them grow into confident individuals capable of living free from stereotypes and developing a sense of self-worth and equality. Integrating gender-responsive pedagogy in early education lays the foundation for a more equal and fair society, benefiting both individuals and communities in the long term.

3.5.2 Educational Topics and Challenges

Incorporating gender equality into Early Childhood Education and Care (ECEC) is essential for challenging traditional gender norms and fostering an inclusive environment. Gender-responsive pedagogy teaches children to question stereotypes and embrace diversity in both language and play. This approach encourages children to understand that **gender should not limit their roles or behavior** and promotes respect for all individuals, regardless of gender. Educators play a critical role in this process, shaping children's perspectives, but they face challenges such as outdated curricula, gender biases, and a lack of adequate training.

Gender-responsive pedagogy in ECEC incorporates several themes that can be embedded into the curriculum to challenge gender stereotypes:

- **Inclusive Language:** Avoid language that reinforces gender stereotypes (e.g., phrases like "boys will be boys" or assigning tasks based on gender, such as boys lifting heavy objects and girls tidying up).
- **Body Image and Awareness:** Teach children to understand, accept, and respect their bodies, while addressing harmful stereotypes, like the idea that girls should "cover up," which fosters shame about their bodies.
- **Sexuality Education:** Children are naturally curious about their bodies and others'. Educators should address this curiosity with sensitivity, teaching children to care for their bodies and set appropriate boundaries.
- **Diverse Role Models:** Encourage mixed-role play (e.g., mothers building houses, fathers cooking) to challenge traditional gender roles.
- **Non-stereotypical Play:** Encourage all children to participate in various types of play, regardless of gender, and question comments like "football is for boys" or "only girls play with dolls," teaching that toys and games are gender-neutral (FAWE & VVOB, 2019).

Challenges

Despite the benefits of teaching gender equality, there are notable challenges in ECEC:

- **Curriculum and Textbook Updates:** Textbooks and curricula are rarely updated, meaning educators often rely on outdated materials that reinforce stereotypes (Nugroho et al., 2022).
- **Educator Dependency on Textbooks:** Many educators rely heavily on textbooks that may perpetuate gender biases rather than challenge them (Islam & Asadullah, 2018).
- **Lack of Training:** Studies show that many educators carry gender biases, often viewing boys as more capable while having lower expectations for girls (Blumberg, 2008).

The role of educators in promoting gender equality is critical, as their attitudes directly influence children’s behaviors and perspectives. However, training alone is insufficient. Educators must engage in self-reflection to recognize and challenge their own biases and commit to continuous improvement (FAWE & VVOB, 2019). Practical barriers, such as lack of time, large class sizes, and insufficient support, often complicate the implementation of gender-responsive activities (Nabbuye, 2018).

3.5.3 Activities, Methods, and Tools for this SDG

Battling gender inequalities and reshaping cognitive frameworks requires a transformative pedagogical approach aimed at changing individual worldviews (Hofman, 2022). Literature highlights that gender-responsive pedagogy in ECEC, supported by arts-based, play-based, and project-based methods, is effective in teaching gender equality (LeBlanc-Haley & Whitty, 2021; Farantika et al., 2022; Kaihovirta, Ekholm, & Furu, 2021).

- **Role-playing:** Educators can use role-playing activities to challenge traditional gender roles, encouraging children to mix gender roles during play. For example, children can adopt roles like a mother building a house or a father cooking (FAWE & VVOB, 2019).
- **Gender-responsive projects:** Organize events like a "Gender Day" to discuss gender issues and policies with children and parents, making the curriculum more inclusive.
- **Group discussions:** Teachers can lead discussions about gender-related topics like bullying, gender equality, and harassment. Storytelling can also be used to question stereotypes. By asking reflective questions—such as “What are your thoughts on this?”, “Is it always this way?”—educators can help children recognize and challenge gender norms (Farantika et al., 2022).
- **Multimodal storytelling:** Incorporating different forms of media, such as illustrations, music, and digital storytelling, creates interactive and engaging lessons. Digital storytelling is particularly effective, as shown in a study of Finnish ECEC centers, which found that it helped improve children’s social, collaboration, and problem-solving skills (Isotalo et al., 2020).

- **Materials:** Educators can use posters, books, puzzles, toys, flashcards, and arts and crafts to support gender equality education. Providing a range of materials helps ensure children are exposed to diverse representations of gender roles.

Prominent examples include the **BEYOND** project in Finland, which began in 2006 and aims to support gender equality through educator training, and the EU-funded **Colourful Children** project, which developed digital games, mini-books, and methodologies to promote gender equality in preschool education (<https://beyond-equality.eu/the-gender-equality-in-early-childhood-education-project/>; <https://colourfulchildren.eu/>).



4 Planet

This section focuses on the second P: **Planet**, emphasizing the importance of protecting the planet from exploitation and pollution. Sustainable consumption, natural resource management, and combating climate change are essential for securing livelihoods for current and future generations. Key initiatives include reducing waste, promoting renewable energy, and conserving biodiversity. The ultimate aim is to build resilient societies that can adapt to environmental challenges, ensuring the planet's health and sustainability for all living organisms.

4.1 SDG 6: Clean water and sanitation

4.1.1 Introduction to the SDG



As a limited resource, it is also directly linked to many other goals - be it health (SDG 3), sustainable consumption and production (SDG 12), climate protection (SDG 13) and life on land and under water (SDG 14 and SDG 15) - and access to it is a basic need. Nevertheless, every second person suffers from water scarcity for at least one month a year and one in ten has no secure access to water at all. Due to the nature of the planet, water is not distributed evenly across the earth; there are areas where there is enough water and those where there is a water shortage. In 2020, 2.4 billion people lived in countries with water stress. Conflicts and climate change are exacerbating the situation.

SDG 6 aims to ensure availability and sustainable management of water and sanitation for all and includes the following (source: <https://17ziele.de/ziele/6.html>):

- **Universal access to water:** access to safe and affordable drinking water for all.
- **Improved sanitation facilities:** Access to adequate sanitation and hygiene in communities
- **Efficient use of water resources:** This includes the sustainable management of water resources and the protection of ecosystems that influence water cycles.

Children should realize at a young age that **EVERYTHING** needs water to live - humans. Animals and plants - everywhere in the world. Water is the prerequisite for all life on our "blue" planet, we humans are also made up of two thirds water and can only survive for a short time without water. Only a very small proportion of the water available on our planet is fresh water (3%), so we must use it carefully.

The availability of clean water is essential for children's health: unclean drinking water causes illnesses, and dehydration due to diarrhea is also dangerous for children. A lack of water can also have a negative impact on the organic and physical development of children. The availability of sanitary facilities is also not a matter of course everywhere, which is why this sub-goal - availability of sanitary facilities - is extremely important, especially in the countries of the Global South. Child mortality in the countries of the Global South increases when there is insufficient access to water and sanitation.

Protecting existing water supply systems or setting up new ones can help to reduce the amount of time spent fetching water in places where households do not have access to running water. Incidentally, this is a task that often falls to children - especially girls - in the Global South. If the distances involved are shorter, such activities are more compatible with school and other domestic duties.

A **safe water supply should be seen as a human right**; water is not a consumer good that should only be available to those who can pay for it.

4.1.2 Educational Topics and Challenges

Water is relevant in elementary education in a number of ways:

- **Drinking Water:** From a health perspective, it is important to encourage children to drink water instead of sugary drinks. Many young children drink almost exclusively water, and it is worth endeavoring to maintain this habit as they grow up.
- **Hygiene Education:** Hygiene education is crucial in primary education centers. Children learning to use the toilet independently understand the importance of clean sanitary facilities. At the age when children have only recently learnt to go to the toilet independently, they know that a sanitary facility - a good "little place" - is important in order to fulfil this human need.
- **Environmental Education:** Natural areas like streams, lakes, and rivers are valuable habitats for humans and animals. Children should learn that these areas need protection to ensure water quality. Environmental education activities can emphasize that natural areas such as streams, lakes and rivers are part of the habitat of animals and humans and are valuable assets that must be protected. They also help to ensure that spring water and drinking water are of good quality. Water pollution, which is often a side effect of economic activities - such as agriculture or industry - should always be avoided. Children can be made aware of this careful use of water as a valuable resource is often made a topic in kindergarten through environmental education: for example, by encouraging children to turn off taps properly so as not to waste water or by explaining how to flush the toilet. Here it can be made clear that water is not unlimited, even if it may often seem so.
- **Indirect Water Use:** A significant portion of the water we use is consumed indirectly. For example, water is used to produce food and other products. This idea can be introduced to children in an age-appropriate way by explaining that there is water in every apple, glass of milk, potato, and especially in meat.

The main messages for preschool children are that **clean water is essential for health**, and it is important to **use water resources carefully** and protect them.

4.1.3 Activities, Methods, and Tools for this SDG

Water is essential for everyday life, and introducing children to questions like “What is water used for around the world Where do children in other countries get water for washing, drinking, cooking, laundry and brushing their teeth? Do all people really have access to water? How do we use water in kindergarten??” or “How do people in different countries access water?” helps them grasp the importance of this resource. Children naturally understand the need for water, as they feel thirsty and use it daily. Reflecting on this fosters awareness of how to use water carefully.

Methodological Approaches:

- **Inquiry-based learning:** Children in the kindergarten group can explore how much water they need every day - for drinking, flushing the toilet, washing their hands, making and painting, etc. All household activities that still require water can also be imitated in play. Small scientific experiments with and about water make the element directly tangible.
- **Sensory experiences:** As a culinary activity, a water tasting can be organized where different waters are tasted and compared and why water can taste different (minerals it contains such as lime etc. or purification methods) depending on where it comes from. Some kindergartens give the children a personalized drinking water bottle as an entry gift, which they should use for drinking in the groups. Water can also be explored acoustically - what does it sound like when it rains, when a tap drips, a stream rushes, etc. A drip massage is also a welcome change that children can let each other or themselves feel.
- **Exploring the environment:** Where does the water come from where I live? To answer this question, an excursion can be made to a local water reservoir, for example in the city of Salzburg to the elevated tank on the Mönchsberg, where educational activities and a small exhibition are offered. Take children on excursions to local water reservoirs to learn about where their water comes from.
- **Storytelling:** Where does water come from and where does it go? Introduce books like *The Journey of the Little Drop of Water* from the Lummerland kindergarten or *The Water Cycle Kamishibai* " (Kramsach, Betzold, 2022) to explain the water cycle in an engaging way. The topic of the scarcity of water can also be dealt with in an age-appropriate way, for example with the Kamishibai by Hansjörg Ostermayer: *Water belongs to everyone. A fairy tale from Africa.* Munich, Don Bosco, 2018.
- **Songs and Games:** There are games and songs about water in all languages, they are often already familiar to children and can be explicitly linked to a new aspect of sustainability (e.g. water is for washing, ... German children's song). More recent songs such as the music video "ViVa Wasser" by ICH & HERR Meyer on youtube are also fun.

Book Suggestions:

- Weninger, Brigitte; Möller, Anne [III]: *Thank you, pure water!* Zurich, NordSüd, 2019.

- Sörensen, Hanna: *Water for everyone!* Hamburg, Carlsen, 2018.
- Goumand, Arnaud: *Stille Örtchen. A cultural history of toilets.* Kosmos Publishing House, 2023.

4.2 SDG 7: Affordable and clean energy

4.2.1 Introduction to the SDG

The core objective of SDG 7: Affordable and Clean Energy is to ensure access to affordable, reliable, sustainable, and modern energy for all. This goal addresses global energy poverty and emphasizes the transition to cleaner energy sources such as solar, wind, and hydropower. Key targets include universal access to modern energy services, increasing the share of renewable energy, improving energy efficiency, and enhancing international cooperation for clean energy research and technology.



SDG 7's environmental dimension focuses on reducing pollution and greenhouse gas emissions from traditional energy systems. Renewable energy sources provide cleaner alternatives to fossil fuels, contributing to the mitigation of climate change.

In Early Childhood Education and Care, SDG 7 holds great relevance as clean energy access directly impacts the health and well-being of young children in homes, schools, and daycare centers where young children learn and grow. Reducing indoor air pollution through clean energy solutions creates healthier environments for children's development. Moreover, it underscores the importance of **environmental sustainability** and the **transition towards renewable energy** sources. ECEC offers an opportunity to introduce children to concepts of energy conservation, renewable energy, and environmental stewardship, fostering early awareness of sustainability. By integrating these ideas into their curricula, ECEC providers can foster environmentally conscious attitudes and behaviors among young children. This early exposure helps instill in them a sense of responsibility towards the planet and its resources, laying the groundwork for a more sustainable future.

ECEC facilities often serve as **essential community hubs**, enabling them to promote SDG 7 objectives through engagement and outreach. By advocating for SDG 7 and integrating clean energy education into their curricula and advocating for clean energy initiatives, ECEC providers can raise community awareness and contribute to a more sustainable future. Through educational initiatives, community events, and collaborations with local organizations, ECEC programs play a crucial role in nurturing a culture of sustainability and encouraging broader community involvement in clean energy endeavors.

Teaching children about sustainable energy practices from an early age instills lasting values and behaviors that contribute to environmental conservation. Through these efforts, SDG 7 supports both the physical well-being of young children and the cultivation of environmentally responsible attitudes, helping build resilient communities where children can thrive.

Consequently, SDG 7 contributes to the overall well-being and development of young children by prioritizing health, environmental education, community involvement, and the cultivation of sustainable attitudes and behaviors from an early age. Through these efforts, SDG 7 fosters healthier, more environmentally aware communities where children can thrive and realize their full potential.

4.2.2 Educational Topics and Challenges

Incorporating **Sustainable Development Goal 7** into Early Childhood Education and Care (ECEC) presents an opportunity to introduce children to themes such as energy conservation and renewable energy sources.

- **Energy Conservation:** Educators can teach young children to use energy wisely. For example, turning off lights, unplugging devices, and reducing water consumption can be reinforced through hands-on activities and interactive games. These help children understand the impact of their energy use and encourage sustainable habits.
- **Renewable Energy Sources:** Children can learn about solar, wind, and hydropower through age-appropriate stories, experiments, and art projects. By exposing children to alternative energy sources, they can develop an appreciation for clean energy solutions and understand how these can help protect the planet.

To explain the importance of SDG 7 to young children, educators can use simple language, engaging visuals, and interactive teaching methods. Emphasizing that energy powers their homes, schools, and communities can help them grasp the concept. Educators can also highlight how renewable energy protects the environment and reduces pollution. Storytelling, role-playing, and group discussions can stimulate children's curiosity and encourage them to explore how they can contribute to a more sustainable future.

Some **key messages** associated with SDG 7 for early learners include the importance of conserving energy, the benefits of using renewable energy, and the need to take action to address climate change. Educators can reinforce these messages through practical activities, outdoor exploration, and community engagement projects that demonstrate the real-world impact of sustainable practices.

Despite the importance of integrating SDG 7 into ECEC programs, several obstacles may arise. These can include limited access to resources and materials related to sustainability education, competing priorities within the curriculum, and challenges in adapting complex concepts like energy for young children. Additionally, **cultural, social, and economic factors** may influence how energy consumption and environmental stewardship are perceived across different communities.

Educators may also face specific challenges when teaching SDG 7 based on children's age and developmental level. Preschoolers, for example, may struggle with abstract concepts such as climate change and renewable energy. Therefore, educators must adapt their language and activities to make these ideas accessible, using concrete examples and hands-

on experiences. Additionally, it is essential to consider children's cultural and linguistic backgrounds to ensure inclusivity and relevance in the curriculum.

4.2.3 Activities, Methods, and Tools for this SDG

Engaging children with Sustainable Development Goal 7 (SDG 7), which focuses on ensuring access to affordable and clean energy, can be achieved through a variety of activities that are both educational and interactive. Here are some types of activities that can help children understand and engage with this SDG:

- **Storytelling and Role-Playing:** Using age-appropriate books, stories, and role-playing activities can help children connect with the importance of sustainable energy practices. Educators can incorporate characters and narratives that highlight the significance of using clean energy and conserving resources in engaging and relatable ways.
- **Art and Creative Expression:** Encouraging children to express their ideas and feelings about clean energy and environmental sustainability through art projects, such as creating posters, drawings, or sculptures, can be a fun and meaningful way to reinforce learning and stimulate creativity.
- **Hands-on Experiments:** Conducting simple experiments to demonstrate concepts related to energy conservation and renewable energy sources can be highly effective. For example, building a solar oven to cook food or creating a small wind turbine model to generate electricity can help children grasp the practical applications of clean energy technologies.
- **Outdoor Exploration:** Taking children on nature walks or field trips to renewable energy facilities, such as solar farms or wind turbines, can provide firsthand experiences and foster a deeper understanding of how clean energy works and its benefits for the environment.
- **Interactive Games and Puzzles:** Incorporating games, puzzles, and interactive activities into the curriculum can make learning about SDG 7 enjoyable and memorable. Activities like matching games, scavenger hunts, and quizzes can help reinforce key concepts and encourage active participation.

A combination of **experiential learning**, **inquiry-based learning**, and **play-based approaches** is effective for teaching SDG 7. These methods allow children to engage with energy-related concepts at their own pace and explore real-world issues through hands-on activities.

Tools and Resources

- **Books and Educational Materials:** Resources such as - *The Magic School Bus*, an animated educational children's television series, based on the book series of the same name by Joanna Cole and Bruce Degen; *Energy Island*, *Pedal Power*, among others by Allan Drummond (England); or "O Livro dos Quintais" by Isabel Minhós Martins and Bernardo Carvalho (Portugal) - introduce children to education about

sustainability concepts. Also, National Geographic Kids and "The Lorax" by Dr. Seuss.

- **Educational Games and Apps:** Platforms like *JouleBug* (App) and *NASA Climate Kids* (Online Portal) teach energy conservation and renewable energy in interactive formats.
- **Tinybop (UK):** It's a studio creating educational products, for play at home and in the classroom, to spark the curiosity of kids around the world today. On the [website](#) you can find suggestions for apps, books and even a blog with news, including topics such as sustainable education, how to live in harmony and more. In the suggestions section, it is possible to select the age group of the children for the material you are looking for.

Successful Projects

- **Green School Initiatives:** Programs like the international **Eco-Schools** program and the Portuguese "**Associação Bandeira Azul de Ambiente e Educação**" (**ABA AE**) (Blue Flag Association for the Environment and Education), are dedicated to Education for Sustainable Development as well as the management and recognition of good environmental practices.
- **Community Outreach Programs:** Energy Hub Projects (Portugal, France, Germany, Spain) are collaborative partnerships between schools and local energy companies that offer workshops, presentations, and visits to renewable energy sites, supporting sustainability education. Furthermore, collaborating with local environmental groups, universities, and energy companies can bring guest speakers, workshops, and resources to support learning.

Incorporating SDG 7 into ECEC requires a mix of creative teaching methods, age-appropriate tools, and collaborative partnerships to inspire young children to engage with sustainable energy practices and contribute to a greener future.

4.3 SDG 8: Decent work and economic growth

4.3.1 Introduction to the SDG



The core objective of SDG 8 is to promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all. This goal emphasizes the importance of ensuring that every individual has the opportunity to work with dignity under fair conditions, contributing to economic prosperity while fostering personal and professional development.

At the heart of SDG 8 are participation, good education, and self-worth, all of which can be cultivated from an early age in Early Childhood Education and Care (ECEC). Teaching children the value of participation lays the foundation for inclusive and humane working conditions, which in turn contributes to economic growth. Similarly, ensuring access to quality education prepares children for a smooth transition into well-paying jobs, while nurturing a sense of self-worth empowers them to demand and uphold dignified living and working standards throughout their lives.

In the context of ECEC, SDG 8 connects strongly to fostering lifelong learning and equitable opportunities, helping to create a future where children grow into adults who can contribute meaningfully to their communities and economies. By instilling key values early on, such as respect, teamwork, and critical thinking, children are better equipped to face the evolving demands of the modern workforce and to advocate for their rights in the workplace.

4.3.2 Educational Topics and Challenges

Integrating Sustainable Development Goal (SDG) 8, which focuses on decent work and economic growth, into early childhood education and care presents both opportunities and challenges. The key themes of SDG 8 in ECEC are "**taking responsibility**" and "**participation**", which help children understand their role within a community. These concepts foster a sense of self-worth by emphasizing their significance and appreciation within that community. Through collaborative activities and shared tasks, children learn the value of contributing to collective well-being.

Key Topics could be:

- **Participation and Sharing Responsibilities:** ECEC environments provide opportunities for children to practice responsibility and teamwork through collaborative activities. These experiences teach them that everyone plays a part in maintaining a productive and inclusive community. Whether it's caring for classroom plants or cleaning up after activities, children learn the value of taking part in shared responsibilities, which mirrors future roles in the workforce.
- **Goal Setting and Achievement:** Create age-appropriate opportunities for children to set small, personal goals within the classroom, such as completing a puzzle or helping a friend. Celebrating these achievements helps them develop a sense of purpose and accomplishment, boosting self-worth and reinforcing the idea of setting goals in their future education and work.
- **Understanding the concept of Work:** Children can be introduced to the idea that work helps meet the needs of society. Role-playing activities, where children act out different jobs like teachers, doctors, or farmers, can help them understand that work is essential for the community's well-being and development.
- **Understanding Money and Value:** Simple classroom activities like using play money in a "store" can teach children the concept of money, work, and value. This can lay the foundation for understanding economic growth and personal responsibility in the future.

However, challenges may arise due to children's socio-economic backgrounds. Children from environments where responsibility and participation are not emphasized, or where their parents feel powerless in life or the workplace, may struggle to grasp these core messages. It is essential to create an inclusive environment that accommodates diverse backgrounds, making the principles of participation and responsibility accessible and meaningful for all children.

4.3.3 Activities, Methods, and Tools for this SDG

There are several methods that have proven themselves useful in teaching responsibility and participation, such as establishing a "Children's Council", a "Helper of the Day" and general daily chores and routines. A pioneer in the pedagogic field and inspiration to many has been Maria Montessori and her principles of sensory, intellectual and moral development. Within her conception, she describes how a prepared environment can encourage children to become more self-effective. This will enable even young children to participate in daily activities and take responsibility for chores. Furthermore, it teaches children a sense of self-worth because they learn "I am capable".

- **Children's Council and Helper of the Day:** Establishing a "Children's Council" encourages children to take responsibility by participating in decision-making processes about daily activities or classroom rules. Similarly, having a "Helper of the Day" fosters a sense of responsibility, allowing children to feel important by contributing to the classroom routine. These practices reflect workplace collaboration, leadership, and community involvement.
- **Montessori-inspired Approaches:** Maria Montessori's principles focus on sensory, intellectual, and moral development, particularly the idea of a "prepared environment." This environment encourages self-efficacy, allowing young children to participate in daily chores and activities. By taking responsibility for tasks such as cleaning up after themselves or helping with classroom routines, children learn that they are capable of meaningful contributions.
- **Storytelling and Role-Playing:** Storytelling offers an engaging method to help children understand the concept of work and responsibility. Role-playing activities, such as "going to work" or "shopping", allow children to act out daily life scenarios where they can assume different roles in a community. This helps them understand the importance of contributing to a group and gives them a practical sense of what jobs involve.
- **Daily Chores and Routines:** Regular chores and routines, such as cleaning up after meals or putting away toys, help children develop a sense of responsibility. Encouraging children to take on "jobs" within the classroom teaches them accountability. These activities also mirror responsibilities they will encounter later in life, both at home and in the workplace.

Incorporating **experiential learning, collaborative learning, and Montessori principles** into ECEC provides children with hands-on opportunities to develop real-life skills, confidence, and

ownership over their tasks. Activities such as daily chores, art projects, and role-playing foster responsibility, while collaborative efforts promote teamwork. By integrating these methods and tools, educators can nurture a sense of responsibility and participation, which are the foundations of SDG 8, ensuring that young learners understand their future role in contributing to decent work and economic growth.

4.4 SDG 9: Industry, innovation and infrastructure

4.4.1 Introduction to the SDG

The core objective of SDG 9 is to help children understand the presence and significance of industry, innovation, and infrastructure in their everyday lives. Even at an early age, children can begin to explore the foundational ideas behind these concepts through simple, curiosity-driven questions such as, "Where do things come from?", "How can I make my life easier?", and "Where can I find...?". By addressing these questions, children develop confidence, problem-solving skills, and a sense of self-efficacy, all while gaining a better understanding of the interconnected world around them.



Industry, innovation, and infrastructure are the backbones of a well-functioning society, supporting everything from transportation and communication to the production of everyday goods. Early exposure to these ideas allows children to appreciate the systems that help shape their world. For example, explaining how roads, bridges, and transportation networks connect communities or how factories produce items they use daily can ignite their curiosity. This SDG also introduces the importance of creativity and problem-solving in the form of innovation—the ability to improve systems and create new solutions to make life easier. Through playful experimentation, such as building structures with blocks or solving simple problems through creativity, children can begin to grasp these complex ideas.

In the context of ECEC, teaching children about industry, innovation, and infrastructure fosters a mindset of curiosity, practical problem-solving, and an understanding of the built environment around them. This foundation encourages critical thinking, which will benefit them as they grow and face more complex societal challenges.

4.4.2 Educational Topics and Challenges

Incorporating SDG 9 into ECEC settings is relatively seamless because industry, innovation, and infrastructure are intertwined with children's everyday experiences. Although these concepts might seem complex, their core messages—industry as "production and distribution," innovation as "making life easier and better," and infrastructure as "connections and understanding places"—can be easily simplified for young learners.

- **Industry (Production and Distribution):** Children can explore how things are made and distributed, learning where everyday items like toys, food, and clothes come from. Activities such as visiting local markets or factories or watching short

educational videos about production processes can help children understand the journey from raw materials to finished products.

- **Innovation (Making Life Easier and Better):** Innovation can be introduced through problem-solving activities where children use creativity to find new solutions to everyday tasks. Simple engineering projects like building structures from blocks, designing tools to solve small problems, or brainstorming ways to improve daily routines help foster innovation. Educators can encourage children to ask, "How can we make this easier or better?"
- **Infrastructure (Connections and Understanding Places):** Infrastructure is the network of roads, bridges, buildings, and systems that connect people. Children can engage with this concept by drawing maps of their neighborhood or building model cities with roads, bridges, and transportation routes. Discussing how different buildings (hospitals, schools, shops) serve different purposes in a community can also help children understand the importance of infrastructure.

Challenges:

While these concepts are present in children's surroundings, simplifying the ideas of industry, innovation, and infrastructure to a level they can grasp may be challenging. Teachers need to use familiar examples and hands-on activities to make abstract ideas more tangible. Socio-economic differences can also impact how children perceive these concepts, especially if their community lacks certain infrastructures or if they have less exposure to technology or innovation.

4.4.3 Activities, Methods, and Tools for this SDG

Incorporating SDG 9 into early childhood activities can begin with simple, **curiosity-driven questions** such as, "Where does electricity, food, or clothing come from?" These questions naturally lead to activities that help children understand industry. Children can engage in storytelling by sharing what they know about their parents' jobs or other industries they are familiar with. Books that explore different professions or industries can be read and discussed in the classroom, and teachers can use technology to find answers to children's questions by "Googling" together, thus reinforcing the value of inquiry-based learning.

When it comes to innovation, **children are natural problem-solvers**. Educators can guide them in action planning, where they identify a challenge and come up with ways to solve it. For example, if children struggle to remember the sequence of dressing for outdoor play, teachers can work with them to create a pictorial guide that illustrates the steps. This visual aid is an example of innovation in everyday life, showing children that solutions can make processes easier. Experiments also provide a great opportunity to encourage children to ask questions, make suggestions, and participate actively, while quieter or more hesitant children can learn by observing.

Infrastructure can be introduced by answering children's natural questions such as, "Where is it?" or "How do I get there?" Visual tools like Metacom™ symbols can help familiarize children with navigation and locations within the classroom or neighborhood, introducing

them to infrastructure in a relatable way. A project-based approach can extend this learning by having children create their own city. Each child can construct a model of their house, and together they can decide what buildings and services (such as shops, hospitals, or parks) their city needs, fostering collaboration and planning.

These methods allow children to engage with the foundational ideas of industry, innovation, and infrastructure in a practical, hands-on way. By exploring their environment and participating in problem-solving activities, children can start to appreciate how the systems around them work, paving the way for a deeper understanding of SDG 9.

4.5 SDG 10: Reduced inequalities

4.5.1 Introduction to the SDG



SDG 10, "Reduce inequality within and among countries," addresses disparities based on factors like income, gender, age, race, disability, sexual orientation, and opportunity. Inequality impacts global communities, harming social and economic development and reducing individuals' sense of self-worth. The United Nations calls for "transformative change," focusing on marginalized communities by eliminating discriminatory laws and

practices.

Key objectives include **reducing income inequalities, promoting inclusion, ensuring equal opportunities**, and adopting policies that **promote equality**.

In Early Childhood Education and Care (ECEC), reducing inequality is critical for breaking intergenerational cycles of poverty. According to an analysis by UNICEF and the World Bank from 2023, children are more than twice as likely as adults to live in extreme poverty, with one in six living in extreme poverty. Children's growth and development are profoundly shaped by the educational, social, and economic opportunities available to them. Considering children as the primary focus, UNICEF encourages governments to monitor the importance of disaggregated data collection, analysis and use; invest in social spending and progress on results for children, adolescents and youth; and activate awareness building and meaningful participation of children, adolescents and youth.

The SDG of "Reduced Inequalities" promotes social and emotional development, encourages critical thinking and cultural awareness, fosters social skills, enhances equal opportunities, improves overall well-being, supports academic achievement and promotes global citizenship and social responsibility. Ultimately, teaching children about inequality and prioritizing inclusive environments where they can express themselves empowers them to become advocates for change in their communities.

4.5.2 Educational Topics and Challenges

Incorporating **SDG 10: Reduced Inequalities** into Early Childhood Education and Care (ECEC) allows children to engage with themes of **racial, religious, gender, age, and disability**

inequalities, as well as **inequalities caused by poverty**. These themes can be explored through a variety of activities:

- **Classroom discussions and role-playing:** Educators can create scenarios that allow children to recognize and discuss examples of inequality in their own communities.
- **Visits to community centers:** Visiting shelters, orphanages, or minority community centers can help children understand the real-world impact of inequality and discrimination.
- **Empathy and solidarity building:** Encourage children to feel empathy and demonstrate kindness through small actions, reinforcing the idea that these can contribute to a fairer society.

Key messages include helping children become aware of inequalities, empathize with those who face discrimination, and analyze the causes of inequality. The goal is to empower children to think critically about fairness and justice from an early age.

Challenges

Educators may face several challenges when integrating SDG 10 into ECEC programs:

- **Lack of training:** Many educators may not be familiar with the SDGs or how to incorporate them into early childhood settings. Professional development is often needed to effectively integrate these themes.
- **Standardized curricula:** ECEC programs often follow rigid curricula, making it difficult to introduce new topics like SDGs.
- **Cultural and social factors:** Children come from diverse cultural, social, and linguistic backgrounds, which can make it challenging to address all forms of inequality. Educators need to be sensitive to these factors and adapt the SDG content to fit local contexts.
- **Parental apprehensions:** Some parents may be uncomfortable with discussing sensitive topics, such as inequality and discrimination, with very young children. Educators must collaborate with families to address these concerns and ensure that the subject is taught in an age-appropriate and inclusive manner.

SDG 10 can be introduced to children as early as preschool, but the content and methods should be tailored to their developmental stages. **Concrete examples** and **hands-on activities** are effective ways to introduce complex topics like inequality. Educators should focus on creating positive, supportive learning environments where children feel safe expressing their thoughts and ideas.

4.5.3 Activities, Methods, and Tools for this SDG

There are various activities that can help students understand and engage with the “Reduced Inequalities” Goal. The following suggestions are part of a teacher’s guide crafted by the Micro:bit Educational Foundation. In addition to this topic, the website provides other relevant resources and tools for teachers.

Activity 1: Introducing Inequality (10 min.)

In this activity, students will be introduced to the concept of inequality.

- Distribute a number of sweets / biscuits / stickers / counters unevenly. Some students should have a lot, some students have none. Keep the majority for yourself.
- Ask students “Is this fair?” Encourage students to discuss this as a class. Ask the students to discuss how they feel about the distribution they have.
- Explain to the students that you have the most because you are the oldest. Is that fair? What about if you gave the tallest children more than the shortest? Or all the boys had to give theirs to the girls?
- Use this example of inequalities to introduce the idea of social inequality. This definition might be useful: “a situation in which people are not equal because some groups have more opportunities, power, money, etc than others” (source: MacMillan dictionary).

Activity 2: The Impact Of Inequality (30-40 min.)

In this activity, students will think about inequality and the impact it has on individuals, their families, right through to the whole world.

- Together, make a list of all of the different forms of inequality that students can think of. Then, in small groups, students should chose one form of inequality to focus on.
- Students should write down all of the impacts of this inequality that they can think of to create an impact chain. Guide students to think about the impact in this order:

Individuals - what is the impact of the inequality on the individual?

Their families - how does it then affect their family?

Local community - what impact with this have on their local community?

Whole country - how will this impact the whole country?

The world - finally, what impact will this inequality have on the world?

- As an extension, they could also think about economic, social, political and environmental effects.

- When they are finished, find ways for students to share their work and reflect on what they've learned.

Storytelling is an effective teaching method in conveying the principles of this SDG to young learners, inspiring them to take action. Through stories, children can learn about different cultures and perspectives. Engaging children in role-playing activities also allows them to empathize with others' experiences and encourages problem-solving and critical thinking. Consequently, educators can utilize books and board games to create an inclusive learning environment. Furthermore, interactive websites provide lessons, videos, and games that cover a wide range of topics related to inequality.

The **ARISE Action for Reducing Inequalities in Education** is an example of a successful initiative that has incorporated this SDG in ECEC. It is a 4-year project created by a Consortium of NEPC members, NGOs and research institutes from Western Balkans and Turkey. It established the goal of supporting schools, grassroots organisations and policy makers in developing actions and policies aimed at mitigating the effect of low socio-economic status on students' achievement, reducing inequalities in education. The five primary target groups are the consortium members, policy makers, local grassroots organisations, schools/schools staff and educational stakeholders, parents and the school community. The final beneficiaries of this action are students from lower socioeconomic backgrounds. It enhances the technical capacity of 25 selected schools and educational stakeholders from Albania, Bosnia and Herzegovina, Kosovo, North Macedonia and Serbia. The program provides national policy reports, policy briefs and policy road maps on equity and education, a comparative report and an impact study. Furthermore, a School Development Program Resource Manual was designed primarily to empower schools in the process of creating a safe environment where every child feels accepted.

The LEGO Foundation has the aim of reaching children with learning through play and empowering them to become creative, engaged, lifelong learners. They reviewed 26 studies of 18 sites of early learning programmes, for children aged 3 to 6, in 18 countries and compiled the findings into a paper that focuses on reducing social inequality via investments in playful early childhood interventions. Some of the outcomes include children developing essential skills through play, with learning through play closing opportunity and inclusion gaps. A combination of free and guided play has proven to be the best approach. The project's interventions have demonstrated long-term benefits into primary school.

5 Prosperity

5.1 SDG 11: Sustainable cities and communities

5.1.1 Introduction to the SDG



SDG 11 focuses on creating urban environments that are inclusive, safe, resilient, and sustainable. Its core objective is to address the growing challenges of urbanization, such as environmental degradation, poor infrastructure, and social inequality. Key aims include providing access to safe, affordable housing, improving urban planning, and promoting sustainable development for current and future generations.

This SDG is highly relevant to ECEC because early childhood settings offer the ideal environment to introduce concepts of sustainability and community responsibility. Children can begin to understand their role in the community, the importance of green spaces, and the value of participating in sustainable urban living.

By integrating these principles into the ECEC curriculum, educators can nurture a generation that values sustainable practices. For example, activities that encourage recycling, learning about green spaces, and engaging in community involvement help children grasp their role in fostering a sustainable urban environment. ECEC can also model these values through maintaining clean and safe play areas and promoting eco-friendly behaviors.

Moreover, SDG 11 emphasizes reducing social inequalities, promoting social inclusion, and ensuring equal access to opportunities and services for all community members. Through early lessons on inclusion and diversity, children can develop a more equitable mindset, appreciating the value of diverse and inclusive communities. By laying these foundations early, children can grow into responsible citizens who are engaged in the sustainable development of their communities, ensuring safe, inclusive, and resilient urban environments for the future.

5.1.2 Educational Topics and Challenges

Integrating SDG 11 into ECEC presents opportunities to introduce important concepts about community, sustainability, and the environment. Here are some key topics and challenges.

Environmental Stewardship: Introducing topics like recycling, reducing waste, and conserving resources helps children learn how their actions affect the environment.

Green Spaces: Teaching the importance of parks, gardens, and natural areas fosters appreciation for the role nature plays in urban settings.

Community Involvement: Activities can focus on participation in local events, understanding different community roles, and helping children feel connected to their neighborhood.

Safe and Healthy Environments: Discussing the importance of clean and safe spaces within cities teaches children the value of resilient and healthy communities.

Explaining the SDG to Young Children:

Educators can explain the importance of SDG 11 through relatable, hands-on activities. For example, children can learn about recycling by creating a mini-recycling station or by participating in a community clean-up. Storytelling and visual aids can also help make abstract ideas like urban planning more concrete. For instance, building a mini-city with blocks while discussing the function of parks, hospitals, and houses can make the concept of sustainable communities more understandable.

Key Messages for Early Learners:

- **Clean Environments Matter:** Teaching children that keeping their surroundings clean helps everyone stay healthy and happy.
- **Green Spaces Benefit Everyone:** Emphasizing how parks and natural areas improve quality of life and provide safe places to play.
- **Community Participation is Important:** Helping children understand their role in their community and why it's important to contribute to its well-being.

Obstacles to Integration:

Several challenges exist, such as insufficient materials and training for educators. Additionally, balancing the broad array of educational content in ECEC curricula can make it difficult to find the time to introduce SDG-related themes.

Different communities may have varying attitudes toward sustainability and community involvement, which can affect how easily SDG 11 themes are introduced. Educators need to ensure their teaching methods are adaptable to the cultural and social values of the children they work with.

Introducing topics like urban planning and sustainability to very young children can be challenging because these are abstract concepts. Educators must rely on concrete activities, visual demonstrations, and simplified explanations to make these topics accessible and relevant. For example, focusing on simple actions like planting trees, recycling, or maintaining clean play areas provides a foundation for more complex discussions about sustainable cities as the children grow older.

By integrating these topics and overcoming obstacles such as resource limitations and cultural differences, educators can help young children understand their community, learn the value of sustainability, and build a sense of responsibility towards their environment.

5.1.3 Activities, Methods, and Tools for this SDG

Activities:

- **City Design Projects:** Children design sustainable cities using arts and crafts, incorporating elements like parks, green energy, and public transport.
- **Community Walks:** Take children around the neighbourhood to observe and discuss urban features like recycling and green spaces.
- **Trash Sorting Games:** Help children learn about waste management by categorizing different types of waste in interactive games.
- **Build-a-City Games:** Use blocks or online simulations to create cities with sustainable infrastructure.
- **Green Space Creation:** Engage children in creating mini-gardens or planting trees to show the importance of green areas.
- **Role-Playing:** Have children act as city planners or community leaders to solve urban challenges in an imaginative setting.

Teaching Methods:

- **Project-Based Learning:** Involve children in real-world projects like designing a green community.
- **Experiential Learning:** Use hands-on activities, such as visiting local sustainable projects, to make abstract concepts more tangible.
- **Visual and Interactive Learning:** Utilize diagrams, videos, and interactive apps to illustrate sustainable city concepts.
- **Storytelling:** Books and stories with themes of urban sustainability can help children relate to these ideas.
- **Collaborative Learning:** Group projects encourage teamwork and problem-solving around sustainability issues.

Tools and Resources:

Books:

- "All the Way to the Top" by Annette Bay Pimentel: Introduces children to advocacy and community accessibility.
- "What If There Were No Teachers?" by Caron Levis: Helps children understand the roles of different community members.

Games:

- SimCity or Cities: Skylines: Simulation games allow children to manage cities and understand urban planning.

Technology:

- Interactive Apps: Apps like Tiny Room Stories or City Island teach children urban planning and management in an engaging way.

Online Resources:

- UN-Habitat's Youth and Urban Development Resources: Offers activities and lesson plans focused on sustainable urban development.

Educational Websites:

- National Geographic Kids: Provides articles and activities about cities, communities, and sustainability.

Examples of Successful Projects:

- Eco-Schools Program: A global initiative that incorporates sustainability into school curricula, including projects on sustainable cities.
- Kids' City Design Workshops: Various cities have hosted workshops where children design sustainable urban environments.
- Green Schools Initiative: Schools that engage students in sustainability efforts such as recycling and energy efficiency projects.

5.2 SDG 12: Responsible consumption and production

Sustainable Development Goal 12 (SDG 12) focuses on ensuring sustainable consumption and production patterns. Its core objective is to promote resource efficiency, reduce waste, and foster sustainable practices in both production and consumption. SDG 12 addresses the global challenge of resource depletion and environmental degradation by encouraging industries, governments, and individuals to adopt eco-friendly practices.



In Early Childhood Education and Care (ECEC), SDG 12 is highly relevant as it instils values of sustainability from a young age, teaching children about responsible resource use, waste reduction, and environmental stewardship. Integrating this SDG into early education helps children understand the importance of minimizing waste, reusing materials, and recycling, while emphasizing the connection between everyday consumption habits and the health of the planet.

For children, these concepts can be introduced through simple activities like recycling, reusing materials for crafts, and understanding where products come from. As children learn about the impact of their choices on the environment, they develop a sense of responsibility that supports their future role as conscious consumers and environmental advocates.

Through early education focused on sustainable consumption and production, SDG 12 contributes to the overall well-being and development of young learners by promoting healthy, eco-conscious lifestyles.

5.2.1 Educational Topics and Challenges

Sustainable consumption and production patterns are essential themes that can be effectively introduced in Early Childhood Education and Care (ECEC). Although these concepts may seem advanced, they are closely tied to many activities in early childhood settings, providing a foundation for children to develop sustainable habits.

Key themes related to this SDG include:

- **Mindful Consumption of Resources:** Educators can teach children about resources like water, electricity, and fuel, helping them understand their origins and how to use them responsibly. Simple actions like turning off lights when not needed or closing the water tap when brushing teeth are practical ways to teach children about conserving resources.
- **Mindful Food Consumption and Waste Reduction:** Children can learn about food sources, emphasizing regional, seasonal, and organic consumption. Educators can promote the importance of taking only what they need and avoiding food waste, helping children appreciate food as a valuable resource.
- **Waste Reduction:** Lessons can focus on identifying waste sources and finding ways to minimize it. Teaching children to use reusable items like water bottles, lunchboxes, and fabric bags can instill habits that reduce waste and promote sustainability.
- **Recycling, Reusing, and Repairing:** Involving children in recycling activities and encouraging them to reuse materials fosters an understanding of the importance of extending the life of everyday objects. Educators can introduce projects that involve repairing or repurposing items instead of discarding them.

Sustainable Materials: Educators can discuss the value of high-quality materials over quantity, emphasizing how items made from natural, renewable resources (like wooden toys) are more sustainable and durable than plastic alternatives.

These themes are deeply embedded in everyday routines in ECEC settings, starting with simple actions like washing hands, discussing the origins of food during meals, and creatively reusing packaging materials for crafts. These concepts help children understand that their choices matter and have an impact on the environment. Educators act as role models, guiding children through everyday decisions that promote responsible consumption.

A constant dialogue between educators and children in day-to-day situations, alongside focused discussions during circle time, reinforces these lessons. Visual aids like stories, picture books, and performances provide effective starting points for conversations about sustainability, fostering creativity and problem-solving skills in children.

However, cultural and socio-economic backgrounds can influence how sustainability is perceived and practiced. Families with fewer resources may face difficulties participating in sustainable practices due to higher costs associated with eco-friendly products. It is essential for educators to create a supportive and inclusive environment, acknowledging these differences without placing blame. Instead, they can encourage children to find small ways to contribute to sustainability within their means.

For younger children (aged 4 and under), the focus should be on foundational values like sharing, caring for the environment, and community involvement. As children grow older (around 5 years and up), more complex topics like sustainable materials and farming can be gradually introduced.

5.2.2 Activities, Methods, and Tools for this SDG

Incorporating SDG 12 into Early Childhood Education and Care (ECEC) can be achieved through engaging activities and storytelling.

Activities:

- **Planting Vegetables and Fruit in the Garden:** Creating a small garden path and decide together with the children, what their favorite fruit and vegetables are, which are regional and plant them.
- **Cooking and Communal mindful Eating:** Using the fresh produce to cook as well as eating in a communal setting, mindfully choosing their own portion.
- **Field Trips to local Farmers Markets and Super Markets:** Visiting local farmers markets, giving the children the opportunity to ask questions to the farmers. Visit also super markets with the aim of buying food with the least possible packaging waste and discuss which are the best options (regional and season products instead of food that travelled far).
- **Project Work and Experiments:** Exploring natural resources like water, electricity, wood, fuel etc. and learn about their origin and the process of getting this resource. The children can gain first-hand insights with simple experiments and document their findings with drawn supply maps, photo boards etc.
- **Recycle and Reuse Activities:** Creating the different recycle containers together and initiate playful activities recycling everyday materials and the children's rubbish. Discuss which of these materials we might could reuse to create something new. Create compost with organic waste that can be used in the garden.
- **Repair Day:** Initiate a repair day in the kindergarten once per week to repair broken toys and resources together with the children. The aim is to foster mindful use of the resources that the repair day might not be needed at all in the future.

Teaching Methods:

- **Interactive Storytelling:** Using stories and books about water and electricity sources, waste and the food chain.



- **Interdisciplinary Storytelling:** Using different forms of theatre and performance to tell stories concerning this SDG, i.e. puppet theatre, shadow theatre, stories in movement, songs that tell a story.
- **Project-Based Learning:** Engage children to formulate questions concerning natural and produced resources and waste and explore them together, using different educational fields as arts, music, physical exercise and movement, science etc.
- **Experiential Learning:** Hands-on Activities as recycling waste, repair broken toys, plant fruit and vegetables in the garden etc.
- **Media and Digital Tools:** Incorporate small videos and multimedia resources as well as digital tools for storytelling.

Tools and Resources:

Books:

- "What a Waste. Trash, Recycling and Protecting our Planet" by Jess French.
- "Why should I save Water?" by Jen Green.
- "How everything works" by Lonely Planet Kids.
- "Where does my Food come from? The Story of how your favourite Food is made" by Annabel Karmel and Alex Willmore.

Stories:

- <https://tuptuptup.org.pl/en/bajki-en/> Various picture stories related to the 12th SDG

Technology and Apps:

- Puppet Pals HD for digital storytelling

Educational Videos:

- <https://www.youtube.com/watch?v=dn-hLQk49eA> Introduction and summary to the 12th SDG
- <https://youtu.be/a5B2Sg-0lmM?feature=shared> SDG explained by children
- <https://youtu.be/TPG6E4nxtSw?feature=shared> The 3R Principle: Recycle, Reuse and Repair

Projects:

Fruit and Vegetable Day in the Kindergarten of DSA (German School Athens): Once per week the children of the class are invited to bring a piece of fruit or vegetables to the kindergarten. We collect them in a basket and discuss during the day what types of fruit and veggies we have, what form and colour they have, how they taste and where they are coming from. Then we prepare the food together with the children, i.e. fruit platter,

cooking soups, salads etc and eat in a communal way where all children share the food and try to choose only what they really want to eat.

Various Projects including various SDGs at Fröbelkindergarten Eifelstraße Köln: Selfmade toys, zero waste shopping trips, gardening, a day without electricity etc.
<https://eifelstrasse.froebel.info/aktuelles>

5.3 SDG 13: Climate Action

5.3.1 Introduction to the SDG



This section explores the integration of Climate Action (SDG 13) into early childhood education. Climate change has become one of the most pressing global issues, characterized by extreme weather events, rising sea levels, and biodiversity loss. The core objective of SDG 13 is to “take urgent action to combat climate change and its impacts.” Its main targets include increasing resilience to climate change, integrating climate measures into

policies, enhancing education and awareness, and supporting climate actions, especially in vulnerable countries.

The relevance of SDG 13 to Early Childhood Education and Care cannot be overstated. Young children will be deeply impacted by the effects of climate change, making it crucial to educate them on sustainable practices from an early age. As children’s brains are highly receptive to new information, early exposure to climate-friendly behaviors promotes sustainable living habits. Studies show that young children are eager to engage in climate-related activities, and incorporating this SDG into the ECEC curriculum equips them to be future advocates for environmental change.

Moreover, integrating climate action education contributes to children’s cognitive, social, and emotional development by helping them understand the importance of their relationship with nature. It fosters a sense of belonging, respect for other species, and a basic understanding of the interconnectedness of ecosystems. Additionally, it cultivates curiosity and critical thinking as children observe environmental changes, ask questions, and develop a sense of responsibility towards the planet. Educating young children about climate action is also closely tied to children’s rights, as it equips them with knowledge that can shape their future and empower them to participate in decision-making processes affecting their lives.

Incorporating SDG 13 into the preschool curriculum is critical for nurturing environmentally conscious individuals from a young age, ensuring they contribute to mitigating climate change and safeguarding the planet for future generations.

5.3.2 Educational Topics and Challenges

Integrating SDG 13 into Early Childhood Education and Care introduces children to essential themes like climate change, environmental stewardship, and sustainable living. Topics such as climate change causes and impacts, biodiversity loss, pollution, and basic

scientific concepts (weather, plants, animals, ecosystems) are central to the curriculum. Educators can focus on engaging children through outdoor and indoor activities that are age-appropriate and practice-oriented, helping them understand how their actions can protect the environment.

- **Environmental Stewardship:** By teaching children small, everyday actions—such as turning off lights or saving water—they learn to take care of the planet. Activities like gardening or sorting waste into recycling bins can help them grasp the impact of these simple habits.
- **Sustainable Practices:** Lessons about reducing waste, reusing items, and opting for sustainable food choices are key to fostering mindful consumption. Children can be introduced to plant-based diets or the importance of renewable energy in easy-to-understand ways.

Despite the importance of these themes, there are several challenges in integrating climate education into ECEC programs. Time and curriculum constraints often limit the depth at which climate action can be explored. Additionally, limited resources and economic challenges can prevent schools from adopting comprehensive environmental education programs. Some parents might have concerns about outdoor learning, believing that playing outside poses risks, which can conflict with climate education’s nature-based learning approach.

Educators also face the challenge of cultural attitudes towards climate action. In communities where human dominance over nature is emphasized, children’s environmental attitudes may be shaped accordingly, influencing their responses to climate-related topics. Addressing this requires thoughtful adaptation of climate content to ensure cultural sensitivity while promoting environmental responsibility.

Ultimately, the task of introducing SDG 13 into ECEC settings involves overcoming these obstacles while ensuring the material is developmentally appropriate. Through interactive, relatable activities and constant dialogue between children and educators, early learners can begin to understand and appreciate the importance of climate action.

5.3.3 Activities, Methods, and Tools for this SDG

According to international bibliography, several teaching methods combined with practical activities are highly effective in conveying climate action principles to young learners in ECEC settings.

Teaching Methods and Activities

- **Nature-based learning:** Activities like outdoor play, tree climbing, and exploring nature to observe plants and animals (Ginsburg & Audley, 2020; Spiteri, 2023).
- **Place-based learning:** Involving children in community-based projects, such as cleaning up local areas (Spiteri, 2023).

- **Inquiry-based learning:** For instance, during slow forest walks, children observe nature and ask questions about plants, animals, and climate change, prompting critical thinking and research (Tulloch et al., 2023).
- **Project-based learning:** Organizing workshops, such as “energy workshops,” creating worm farms, or practicing community gardening fosters hands-on learning (Hayden, 2023).
- **Arts-based learning:** Incorporating storytelling and animated stories that explain environmental issues, like composting and recycling (e.g., Green Guardians lesson).
- **Experiential learning:** Role-playing activities such as “Habitats,” where children pretend to be species surviving in specific ecosystems.
- **Play-based learning:** Examples include the “Build a Bee Hotel” activity to promote biodiversity (Sundberg et al., 2019).

All these activities can be supported using natural and open-ended materials (sand, sandstone, moss, magazines, balls, baskets, paper plates, food containers, etc.) (Farrell, 2023). Furthermore, the following books are useful to teach about energy conservation (“Guzzler’s Party Book”, by Lucinda Jacob) (Hayden, 2023), renewable energy (“The Windy Farm”, by Anna Milbourne) and environmental protection (“The Tomorrow Book”, by Jackie French) (Boyd, 2023). Indisputably teaching about environmental sustainability could be enhanced by utilising digital resources combined with effective teaching methods, such as digital storytelling and especially collaborative storytelling, where children can “co-construct” a digital story, which arises from multiple individual stories, fostering dialogue, diversity and inclusion (a practice that aligns with quality education SDG) (Daskolia et al., 2015).

Educators can combine play-based learning with digital storytelling methods to achieve better learning outcomes. For instance, the interactive game “Great Reuse Reduce Recycle Relay” that engages children with waste sorting practice can be intertwined with the “Sharing a Small World” narrative, that appeals to children for acting towards the protection of the Earth. In particular, this brief story manages to make children identify with the Earth, through the exploration of the answers to questions, such as “How do you take care of your body?”, “What do you do to keep your room clean”? Afterwards, children are asked to share their thoughts on how we can take care of the Earth.

Some projects and programmes that have managed to successfully incorporate “climate action SDG” into ECEC are: a) the “Eco-Schools” global programme, implemented by member organisations of the FFE (Foundation for Environmental Education) that promotes education for sustainability and environmental values to new generations. The programme is implemented in 99 countries in total at an international level, b) the “Little Green Steps” project (2009-2010) aimed to provide ways of integrating education for climate action into Australian preschool curriculum and empower children, parents and educators to achieve sustainability. The project operated in a number of children centres, located in Australia and managed to reduce resource consumption and waste, enhance children’s education for climate action, through hands-on activities, participation and observation, supported educators and involved parents, through the implementation of workshops and trainings and

lastly, c) the “Masters of Trash” recycling project, which was implemented by a public Finnish kindergarten, aiming to raise awareness between children, parents and educators for the protection of the environment, through the enhancement of their understanding about recycling. The results of the project indicated the importance of outdoor play and exploration for adopting environmental-friendly habits and managed to involve parents in promoting environmental sustainability (Sihvonen et al., 2024).

5.4 SDG 14: Life below water

5.4.1 Introduction to the SDG

Sustainable Development Goal (SDG) 14, Life Below Water, focuses on the conservation and sustainable use of oceans, seas, and marine resources. Oceans play a crucial role in supporting life on Earth, providing essential resources such as food, medicines, and biofuels. They also help regulate climate and reduce the impacts of natural disasters, while their ecosystems help mitigate climate change. However, rising pollution, plastic waste, and overfishing threaten marine biodiversity and the health of our oceans.



The core objectives of SDG 14 aim to significantly reduce marine pollution, protect marine and coastal ecosystems, and manage fish stocks sustainably. This includes ending practices like overfishing and destructive fishing techniques while expanding marine protected areas and promoting scientific research to better understand and protect marine life.

Incorporating SDG 14 into ECEC is essential as it introduces young children to the importance of oceans and marine life, helping them develop a sense of environmental responsibility from an early age. Oceans, often associated with vacations and play, can be a gateway for children to explore life under water. Through engaging activities such as storytelling and hands-on water exploration, educators can introduce children to marine ecosystems, pollution, and the importance of protecting our waters.

5.4.2 Educational Topics and Challenges

Incorporating SDG 14, Life Below Water, into ECEC involves introducing key themes related to oceans and marine conservation, while addressing challenges related to curriculum and resources. Possible education topics for ECEC related to this SDG are:

- **Water Cycle:** Explain the water cycle’s connection to oceans, helping children understand how water bodies influence the planet’s climate and weather.
- **Sustainable Practices:** Introduce sustainable habits like reducing plastic waste and responsible water use to protect oceans.
- **Ocean Conservation:** Explore the impact of pollution, overfishing, and how to protect marine environments.

- **Marine Ecosystems:** Teach children about ocean habitats, such as coral reefs, and emphasize their importance for marine life.

Young children can grasp the relevance of oceans by connecting these topics to their daily lives. Educators can explain how oceans provide food and recreation and why it's crucial to keep them clean and healthy. Children can be taught the idea that every small action counts, whether through recycling or simply reducing waste.

To introduce children to the importance of **protecting marine life**, educators can emphasize that even small actions, such as reducing waste or recycling, can make a significant difference in preserving oceans. Instilling **respect for nature** helps children appreciate the beauty and diversity of marine species, fostering a deeper emotional connection to the environment. Introducing the concept of **community responsibility** teaches children that everyone has a role to play in maintaining clean and healthy waterways, encouraging collective efforts to care for marine ecosystems.

However, integrating these ideas into early childhood education presents some challenges. The **complexity of marine ecosystems** and the science behind ocean conservation can be difficult to simplify for young learners. Furthermore, **resource limitations** in ECEC programs may restrict the availability of materials and tools necessary to effectively teach these topics. Additionally, **curriculum constraints** can limit the time and flexibility available for introducing new environmental lessons, leaving little room for topics like marine conservation.

Cultural and social factors also play a role in how these concepts are received. In communities that depend on fishing, there may be varying perspectives on **marine conservation**, which could influence how educators approach the subject. Similarly, **social awareness** about environmental issues may differ among families, affecting how engaged children and their communities are with SDG 14 topics.

To overcome these challenges, educators can use **hands-on learning** techniques, such as crafting ocean-themed art, participating in beach clean-ups, or exploring local bodies of water, to connect children with marine conservation efforts. **Storytelling and play** are also powerful tools to spark curiosity, as stories about marine animals can help children understand the impact of pollution and inspire a sense of wonder about the ocean. Lastly, **collaborative learning** that involves families and communities in marine conservation projects can deepen children's understanding and foster a sense of shared responsibility toward protecting oceans.

By focusing on these interactive and engaging methods, educators can effectively introduce young children to the principles of marine conservation, empowering them to take small, meaningful actions toward safeguarding the planet's oceans for future generations.

5.4.3 Activities, Methods, and Tools for this SDG

Incorporating SDG 14 into Early Childhood Education and Care (ECEC) settings requires a balance of engaging hands-on activities, family involvement, and educational tools. To make the topic relatable, start by exploring children's **immediate surroundings**. For instance, take

children on **water discovery tours**, where they observe local water bodies using tools like magnifiers and notepads. Children can note and collect small findings, fostering curiosity about marine life. You can find helpful resources and activities to enrich these experiences through sites like the [Greenpeace marine protection initiative](#), which provides insights on marine conservation.

Many kindergartens have aquariums, allowing children to observe and care for marine life daily. This hands-on interaction helps children develop responsibility for the environment. Introduce children to the concept of **pollution** through their personal experiences. For example, children may have seen plastic waste floating in water on holidays. Encourage them to share these stories, discuss how plastic harms marine ecosystems, and work with parents to organize a **beach or river clean-up day**. This family activity makes the issue of pollution real and relatable, as children physically engage in the task of removing waste from natural water bodies. Follow-up discussions can involve children brainstorming ways to reduce pollution and waste.

An indoor **research project** in the classroom can also provide valuable insights. Set up an **aquarium** or pool where children can experiment with materials like plastic, paper, or organic waste, observing how different objects behave underwater. Children can wear **diving goggles** and observe, for instance, how plastic remains unchanged while paper dissolves over time. Such hands-on projects deepen their understanding of pollution and the environmental impact of waste.

Additionally, **storytelling and multimedia resources** play a vital role in bringing the ocean's significance to life. Websites like [Unicef's resource on life below water](#) and educational videos, such as [this explainer on marine ecosystems](#), offer digital content that can complement your teaching methods. Using these resources, children can learn how marine ecosystems function and how human actions can protect or harm these environments.

By combining **interactive storytelling, digital tools**, and hands-on activities like clean-up days or aquarium research projects, educators can bring SDG 14 to life in ways that resonate with young children. Introducing children to the importance of oceans, rivers, and other marine environments through practical, real-world examples encourages them to take an active role in protecting the environment. With a mix of fieldwork, community engagement, and classroom-based exploration, young children can learn the value of conservation in their daily lives.

5.5 SDG 15: Life on land

5.5.1 Introduction to the SDG

The goal "Life on land" refers to the essential need to protect ecosystems such as forests and rainforests, mountains, wetlands and deserts. Furthermore, it aims to end deforestation and sustainably manage and restore forests. But this goal also addresses biodiversity: Preserving biodiversity and protecting endangered animal and plant species is another aspect of it. The fast decline in variety of species is a big threat today because about half of



ecosystems are in a worse state and are not being used sustainably. Overexploitation through intensive agriculture, deforestation and the consequences of climate change are among the most important causes. 2 billion hectares of land worldwide are considered degraded.

This goal is based on the realisation that healthy ecosystems are the foundations of our lives and that humans need it to survive. Forests protect valleys from avalanches, mangrove forests protect coasts from flooding and rainforests convert CO² into oxygen (source: <https://17ziele.de/ziele/15.html>).

Interesting facts on this goal (<https://www.bmz.de/de/agenda-2030/sdg-15>):

- Only 17% of the world's land is protected
- 10 million hectares of forest are lost every year - that's a football pitch every four seconds.
- Intensive agriculture is the cause of almost 90 per cent of forest loss.
- 75% of the most biodiverse areas are in newly industrialising and developing countries
- Every day, up to 150 plant and animal species disappear from the earth (e.g. reptiles: 21% of species are threatened with extinction)
- Increasing soil degradation is affecting food and water security around the world - 1.3 billion people are already directly affected.

Like many other "planet" goals on the agenda, this one has a major impact on other goals and jeopardises their implementation, for example food security, clean water or the fight against climate change, which seems unrealisable without the preservation of tropical forests.

What can a sustainable use of terrestrial ecosystems look like? Here different perspectives and interests often clash - Agriculture, Environmental NGOs and governments do have different priorities and points of view when searching for an answer. Fact is that not only humans but as well animals and all life have their own needs and rights to an intact habitat.

This goal is therefore central to a sustainable future for our children, because terrestrial ecosystems are the basis of our lives - now and in the future. Even at this age, children can understand the importance of treating them fairly and carefully if suitable educational programmes and activities are provided: Experiences in nature and with nature - plants and animals - are important for this, as are scientific knowledge and joint activities on environmental protection and age-appropriate reflection on consumer behaviour.

Raising awareness at a young age has an influence on the value children place on nature and the environment and therefore influences their behaviour - adults are of course role models here.

5.5.2 Educational Topics and Challenges

Learning responsibility for nature and the environment - to an appropriate extent - and reflecting on the value of intact nature itself is part of the value formation that begins in kindergarten. It is beneficial to work on this over a longer period of time and to provide suitable play activities or opportunities to experience nature. Another opportunity lies in the fact that when children develop an awareness of sustainability, they usually also sensitise their families and thus generate longer-lasting positive effects.

The educational area of nature and technology in the educational framework plan already contains a number of references in the area of **pedagogical action**:

- What nature observations are children encouraged to make? What activities are offered on the subject of environmental protection?
- When children are in the garden and forest: what games do we play?
- **Sensory experiences**: what does a tree feel like, what does an animal's fur feel like, what sounds does the forest make, what do the berries on the bush taste like, what do animal tracks look like ...
- How can children be involved in caring for plants and animals and working in the garden? How can we encourage children to engage with animals?
- How do the children react to natural events and animals? Which pets can be brought along?
- What questions about science and the environment do children ask? What strategies can children learn to answer questions?
- How are teachers doing at explaining scientific relationships to children in a simple but factual way?
- What activities encourage children to discover and experiment in nature?
- **Parent work**: do we know which children have nature experiences and do we talk to parents about them?

(Source: Province of Salzburg, Department 2 (ed.): Bildungs Rahmen Plan Umsetzung. Province of Salzburg, 2022. p. 44f.)

Challenges or Obstacles can be seen in cultural differences how children get in touch with nature and which leisure activities families do: If they spend a lot of time outside, in the garden, park or forest or if they mainly stay at home - depending also from existing possibilities (including time capacities) and place of residence. If children have pets or have visited a farm or simply have some knowledge about animals makes a difference.

Teachers may encounter difficulties if children have detailed questions or do not feel sufficiently prepared to explain events in nature and scientific relationships. Here, it is a good idea to research together with the children and look for answers - a teacher does not have to know everything. Nature education programmes such as guided tours of forests, meadows

or farms are already available in many towns and communities. Non-fiction books for children from libraries also provide age-appropriate knowledge.

The core message of working towards this goal is the appreciation of nature itself and the importance of biodiversity for the planet - regardless of its benefits for us humans. We are part of the earth's ecosystem and have a responsibility towards nature. Plants and animals also need living space and have rights; humans must protect them and ensure a fair distribution of resources.

We recommend the publication "Sustainability for children": This also identifies the alienation process between humans and nature as a hurdle in sustainability education and emphasises the need for education to be more mindful of all living beings.

5.5.3 Activities, Methods, and Tools for this SDG

Sensitivity towards nature and knowledge about it can best be developed through hands-on activities and sensory experiences. Engaging with plants and animals during walks, excursions, or while gardening allows children to learn about biodiversity, the importance of trees, and small-scale environmental protection. For example, exploring the forest helps children identify different trees and understand their role in climate regulation and habitat protection. Workshops such as "See you soon in the forest" and "Forest pharmacy" in the Salzburg Lungau Biosphere Reserve are excellent models of these educational experiences.

- **Forest:** What trees do we have and is the forest healthy? What do trees do for the climate? Why is it important to plant trees? What functions does the forest have (climate, protection, commercial forest, habitat). A concrete example of an educational programme are the workshops: "See you soon in the forest - forest life in every season" and "Forest pharmacy - the gentle healing power of trees" in the Salzburg Lungau Biosphere Reserve.
- **Animals:** What wild animals are there in my neighbourhood? What should I look out for when I encounter them? Many children are afraid of arachnids or other insects, snakes etc.. The aim here is to arouse curiosity and explore the function of these animals. The children can also bring their pets with them by prior arrangement.
- **Biodiversity:** Why do we need all these different plants and animals, what significance do they have? Which animals and plants can be found on the farm and which in the wild? We can collect different species with a magnifying glass and learn about them. A vegetable patch can be created in the kindergarten itself, where the children can do their own work. Projects about bees are also a great way to show the interdependence of animals, plants and humans.
- **Soil:** Who lives in the soil? Did you know that around 100 earthworms live in one cubic metre of healthy soil? And millions of other worms, bacteria, larvae, isopods, spiders, snails, etc.? These soil creatures can be studied with a beaker magnifying glass, and a worm box can be purchased or built to visualise the performance of earthworms.

- **Environmental protection and economical use of resources:** activities to reduce pollution and avoid waste are on the programme at most kindergartens, and upcycling workshops are also popular. Here are a few examples:
 - Waste separation: There is already a range of materials and templates for practising this in a playful way. Rubbish can be separated with the youngest children, for example paper from plastic. Then you can track down and collect rubbish in the neighbourhood and separate it properly in your own group room - instructions can be found here: <https://www.prokita-portal.de/bildungsbereiche-entwicklungsziele-kita/umgang-muell-kinder/>
 - Food waste: Is there food waste in kindergarten? What happens to leftovers at snack and lunch? If so, what ideas are there for avoiding it? Why does a sliced apple turn brown? If children know what happens here chemically, they are more likely to eat it.

Reflecting on **consumer behaviour** - work can be done with the children here, the kindergarten as an institution should also act as a role model here, because children at this age imitate what they observe in adults. This means that educators and the kindergarten itself should also reflect on their own behaviour and ideally:

- Buy and consume less - reuse, share, swap, do without or recycle if necessary
- Look for seals that prove that products have been produced sustainably and fairly and do not contribute to deforestation.
- Implement climate and environmental protection measures in the organisation

Handicrafts and crafts

Natural materials are a wonderful way to do handicrafts and crafts in keeping with the season, allowing you to experience nature in a tactile way. Earth, clay, branches and tree cones, chestnuts, leaves, etc. are naturally used in kindergartens. A mandala made from various materials is also a great idea.

Animal and nature drawings as well as making hand puppets (to show the transformation of insects, for example) are just a few of the countless things that are done in kindergartens.

Nursery school teachers tell us about the changes they observe when children become more involved with the environment and nature:

- The children begin to talk about home (e.g. what they do when there is leftover food)
- The children talk about what they have learnt at home
- Children pay more attention to the environment and to what adults do
- The children can then make better decisions about how to help shape their environment
- Everyone must help together! Realising this promotes a sense of community!

6 Peace

6.1 SDG 16: Peace justice and strong institutions

6.1.1 Introduction to the SDG



Sustainable Development Goal 16 (SDG 16) is focused on promoting peace, justice, and strong institutions as a foundation for sustainable development. The core objectives include reducing violence, ensuring access to justice, combating corruption, and fostering inclusive, transparent institutions at all levels. It emphasizes the protection of children's rights, eliminating abuse, and promoting non-discriminatory policies. SDG 16 is highly relevant to Early Childhood Education and Care (ECEC) by creating safe, inclusive environments essential for children's emotional, social, and cognitive development. By upholding justice, equality, and transparency, it fosters a society where every child has the opportunity to thrive.

Promoting peace in early childhood settings is vital as a stable, secure environment fosters healthy child development. ECEC institutions can help by teaching children non-violent conflict resolution, encouraging empathy, and nurturing an inclusive mindset. Legal protections for children's rights, as stressed by SDG 16, ensure that children are shielded from abuse, neglect, and exploitation, which is critical for their physical and psychological well-being.

The fight against corruption, another key focus of SDG 16, directly impacts the quality of early childhood education. Corruption undermines public trust and diverts resources from essential services. When institutions are transparent and accountable, children benefit from more effective allocation of resources, including access to quality education and healthcare. The inclusion of non-discriminatory policies guarantees that every child, irrespective of race, gender, or socioeconomic status, can access the same opportunities and services, fostering equality from an early age.

Educators can actively engage young learners with concepts tied to peace, justice, and fairness through interactive methods such as storytelling, role-playing, and group activities that emphasize cooperation, respect, and empathy. By integrating principles of SDG 16 into the classroom, ECEC providers contribute to raising a generation of socially responsible individuals who understand the importance of justice and inclusivity. Institutions that operate transparently also set a strong example, demonstrating the importance of accountability and the role it plays in societal well-being. This builds trust in governance and social systems, benefiting future generations.

In summary, SDG 16 aligns with the goals of Early Childhood Education by creating peaceful, just, and inclusive societies. These goals are not only critical for children's immediate development but also lay the groundwork for a just and equitable future, ensuring that young learners grow up in environments where they feel safe, valued, and empowered to contribute to a more peaceful and fairer world.

6.1.2 Educational Topics and Challenges

Sustainable Development Goal 16 (SDG 16) offers various themes and subjects that can be integrated into Early Childhood Education and Care (ECEC) to teach peace, justice, and the importance of strong institutions. Several key themes can be introduced to help young children grasp these important concepts.

- One such theme is **peace education**, where children learn about the importance of peace, conflict resolution, and cooperation through age-appropriate activities, stories, and discussions. These lessons help to cultivate empathy, understanding, and respect for others' perspectives. **Social and Emotional Learning (SEL)** can also be incorporated, as it helps children develop empathy, self-regulation, and problem-solving skills, all of which are essential for fostering positive relationships and peaceful interactions.
- The idea of **diversity and inclusion** can also be promoted by celebrating differences in cultures, languages, and traditions through multicultural books, materials, and activities. This allows children to develop an appreciation for diversity and respect for all individuals. Along with this, it is important to introduce children to the concept of **rights and responsibilities** by teaching them about their own rights and the need to respect the rights of others. Role-playing and discussions about fairness, equality, and justice can help children understand these concepts in a simple, relatable way.
- Another crucial theme is **community engagement**, where children are encouraged to participate in community projects, such as service projects or visits to local institutions, helping them recognize the role of community and institutions in maintaining peace and justice. Educators can also teach **conflict resolution skills** by providing strategies like "I-messages" to express feelings and helping children practice these skills through role-playing and peer mediation.
- **Environmental stewardship** can also be tied to SDG 16 by exploring how taking care of the environment connects to peace, teaching children the importance of conservation and responsible resource use. **Critical thinking and media literacy** can be introduced in age-appropriate ways to help children evaluate messages and information, empowering them to be informed participants in shaping a just society.

Conveying these ideas to young children is most effective when using simple language, relatable stories, and hands-on activities. For example, educators can teach about fairness by encouraging children to share and take turns, emphasizing that everyone deserves equal treatment. Through collaborative art projects, role-playing games, and storytelling, children can learn the importance of cooperation and problem-solving.

However, there are **several challenges** to integrating SDG 16 into ECEC programs. These challenges include the complexity of the concepts, limited resources, and curriculum constraints. Simplifying complex ideas such as justice and institutions can be difficult, and educators may struggle with finding age-appropriate materials. In addition, integrating these

lessons into already packed curriculums can be difficult, as these topics may not be explicitly addressed in current frameworks.

Cultural and social factors also play a role in how SDG 16 is introduced in early education settings. For example, diverse cultural norms and values can affect how families and communities perceive topics such as peace, justice, and equality. Additionally, socioeconomic factors may influence children's access to programs that incorporate SDG 16 principles. Educators must work to create inclusive environments that take into account the diverse backgrounds of their students.

When introducing SDG 16 concepts to young children, educators must also be mindful of **age-appropriateness**. While young children can understand simple concepts like fairness and cooperation, more complex ideas about justice and institutions may be beyond their developmental level. Educators may also face difficulties finding suitable materials that effectively communicate these themes to young learners. It is important to strike a balance between providing accurate information and simplifying complex ideas to avoid overwhelming children.

Despite these challenges, integrating SDG 16 into early childhood education offers valuable opportunities for fostering empathy, responsibility, and social awareness in young learners. By teaching children about peace, justice, and inclusion in developmentally appropriate ways, educators can help lay the foundation for a more peaceful, just, and equitable future.

In summary, Sustainable Development Goal 16 can be integrated into Early Childhood Education and Care programs by focusing on themes such as peace education, social justice, diversity, and community engagement. While there are obstacles such as limited awareness, resources, and cultural factors, addressing these themes in early education offers important opportunities for fostering positive values in young children and helping them grow into responsible and empathetic global citizens.

6.1.3 Activities, Methods, and Tools for this SDG

To engage children with Sustainable Development Goal 16 (SDG 16), which focuses on peace, justice, and strong institutions, educators can use a variety of age-appropriate activities, methods, and tools.

- **Storytelling and role-playing** are powerful methods. Through stories featuring characters who resolve conflicts peacefully and demonstrate fairness, children can learn empathy and problem-solving skills. Role-playing scenarios allow children to act out real-life situations, such as sharing toys or working through disagreements, helping them internalize the values of SDG 16.
- **Collaborative art projects** can also promote themes of peace and cooperation. Children can work together to create murals or drawings that reflect their vision of a fair and peaceful community. This not only encourages teamwork but also opens discussions about what makes a safe and just environment.
- Involving children in creating **classroom rules and assigning responsibilities** fosters a sense of justice and accountability. By allowing children to contribute to

the rules that govern their daily activities, they learn the importance of fairness and respecting others' rights.

- Similarly, **conflict resolution games** and activities that teach children how to express their feelings and listen to others are crucial in promoting peaceful interactions. Games that involve role-playing or using "I-messages" to express feelings can help children practice resolving conflicts in a non-violent manner.
- **Peaceful playtime** and games that require teamwork and cooperation help children practice the principles of collaboration and peaceful problem-solving in a fun, interactive setting. Educators can guide children through real-life situations to discuss fairness, helping them understand justice through their everyday interactions.

Books like "The Peace Book" by Todd Parr or "Last Stop on Market Street" by Matt de la Peña are valuable resources for introducing the idea of peace and justice in a relatable and colorful way. These books can serve as conversation starters about kindness, empathy, and fairness.

Role-playing tools, such as **puppets and costumes**, can also be used to make abstract concepts more concrete. Children can act out scenarios that involve conflict resolution or cooperation, helping them understand these concepts through play.

Hands-on materials, such as building blocks, can be used in activities that emphasize teamwork and cooperation. Collaborative projects, like creating a "Peace Mural" or a "Fairness Garden," allow each child to contribute to a larger, shared goal.

Additionally, **guest speakers** from the local community, such as police officers or government officials, can help children understand the roles of institutions in maintaining peace and justice. These visits make the concepts of SDG 16 more accessible by providing real-world examples that children can relate to.

Successful Projects and Initiatives

Several successful projects in Europe have effectively incorporated SDG 16 into ECEC. For example, the **Living Peace International** initiative in Italy promotes a culture of peace through education, using peace-themed activities and games. The **Roots of Empathy** program, implemented in Ireland, fosters emotional literacy and empathy by bringing a baby and parent into the classroom, allowing children to learn about emotions and empathy in a tangible way.

In the UK, the **Seeds of Peace** initiative focuses on teaching conflict resolution and empathy through interactive activities and storytelling. The **Reggio Emilia Approach**, originating in Italy, and the **Montessori Method** also provide experiential and child-centered learning environments that align with the goals of SDG 16, focusing on independence, respect, and community collaboration.

By using these methods and tools, educators can help young children understand and engage with the principles of peace, justice, and strong institutions in a meaningful and developmentally appropriate way. These activities not only teach children about fairness and cooperation but also empower them to contribute to creating a peaceful and just world.

7 Partnership

7.1 SDG 17: Partnerships for the goals



Sustainable Development Goal 17 aims to strengthen global partnerships between governments, the private sector, and civil society to mobilize resources, share knowledge, and foster cooperation to achieve sustainable development. By encouraging cross-sector collaboration, SDG 17 seeks to build synergies and ensure that all sectors are working together towards the common goal of sustainable and equitable growth.

SDG 17 is relevant to Early Childhood Education and Care because **effective partnerships are essential to ensuring that all children, regardless of background, have access to quality education, health, and social services.** Collaboration between educational institutions, community organizations, governments, and private entities helps fill funding gaps, provides capacity-building, and ensures that comprehensive, well-resourced programs are available for children in early learning stages.

Partnerships help connect ECEC with broader social goals, such as poverty reduction, gender equality, and improved health outcomes. In particular, partnerships enable the integration of health, nutrition, and educational services in a more holistic manner, ensuring that children benefit from multidimensional support.

SDG 17 contributes to the well-being of young children by facilitating resources and expertise to ensure high-quality early childhood education and care. Strong partnerships allow communities to build innovative programs, improve teacher training, and increase access to early learning facilities, particularly in underserved areas. By bridging gaps in resources and knowledge, SDG 17 helps promote equitable opportunities for young children, fostering environments conducive to their cognitive, emotional, and social development.

These partnerships ensure that no child is left behind and that all children have the opportunity to thrive, laying the foundation for lifelong success. Partnerships in ECEC also emphasize the need for joint accountability in meeting children's developmental needs, enhancing long-term educational outcomes, and supporting families in creating positive learning environments. Through these collaborations, SDG 17 paves the way for more inclusive and comprehensive approaches to early childhood care.

7.1.1 Educational Topics and Challenges

Incorporating SDG 17 into the Early Childhood Education and Care (ECEC) curriculum involves teaching collaboration, community engagement, and the importance of working together. Themes like **teamwork, global partnerships, and helping others** can be introduced through group activities, storytelling, and role-playing. Educators can focus on simple concepts like sharing resources and the importance of everyone contributing to a collective goal.

- **Explaining the Importance of Partnerships:** Educators can explain SDG 17 by relating it to the children’s immediate experiences, such as sharing toys or helping each other. By explaining that when people come together, they can achieve more, children can grasp the importance of partnerships. Activities like group art projects, working on a community garden, or organizing charity events teach children how collaboration makes positive changes.

Key Messages for Early Learners

- **Teamwork Matters:** By working together, we can make our communities better places.
- **Helping Others:** Sharing and helping improve everyone’s situation.
- **The World is Connected:** Communities, schools, and families can achieve great things when they work together.

However, not all schools have the tools or time to emphasize global collaboration. Additionally, **abstract concepts** like global partnerships might be challenging for young children to grasp. Educators need to find developmentally appropriate ways to explain these ideas. Cultural norms around sharing and teamwork may vary, influencing how concepts related to SDG 17 are taught. Some cultures may prioritize individual achievement over collaboration, which can impact how children perceive teamwork. Educators need to navigate these cultural differences sensitively while promoting inclusiveness.

Younger children may find it difficult to understand the global implications of SDG 17. Educators must adapt the content to be developmentally appropriate by focusing on **small-scale cooperation** and **local partnerships** first. Building an understanding of teamwork and collaboration can be gradually expanded as children mature.

In conclusion, integrating SDG 17 into ECEC programs can help foster a sense of global citizenship and cooperation in young learners. Through hands-on activities, discussions, and community involvement, children can begin to understand the value of partnerships and working together to build a better world.

7.1.2 Activities, Methods, and Tools for this SDG

In our classrooms, we can use storytelling to understand partnerships. To help our children understand and engage with SDG 17, educators can use a variety of hands-on, interactive activities that **emphasize teamwork and collaboration**. Children can take turns adding to a story where the characters work together to solve a problem. This helps them understand how partnerships and teamwork lead to success.

- Teachers and children can work together on a **large artwork project**, where each child contributes a part (e.g., animals in a jungle or a town with homes). This visualizes the idea of contributing to a shared goal.
- Children can learn and play **community helpers in theatre** (e.g., doctors, teachers, farmers), showing how people in different roles work together to help a community thrive.

- In Arts and Crafts class children can use blocks or recycled materials and collaborate to build something as a group, like a bridge or a house, learning the importance of teamwork.
- If a kindergarten space allows for it, a class **garden** can be created where everyone takes responsibility for planting, watering, and harvesting can model the benefits of shared effort and resources.

All these activities can be digitalized by the children by providing them with cameras or similar. After that they can use the pictures to tell their own story about what they achieved and why it might be important what they did.

Effective Teaching Methods for SDG 17:

Young children respond well to stories that illustrate collaboration, where characters must work together to achieve a common goal. Through role-play, children can better understand social dynamics and cooperation.

Encouraging children to work on small projects together, such as completing puzzles, or doing science experiments as a team. This approach makes the learning process interactive and focused on group effort.

Create a space for children to share their experiences during circle time, where they can talk about experiences they had working together and collaborating on activities.

Partnerships: Creating partnerships with local institutions like libraries and facilities that promote sustainability will teach the children early on how important teamwork is to make a change and learn about the world

Cooperative Games: Games that work towards a common goal like „telephone“ help the children to understand cooperation and teamwork. The game idea could even be extended to include an actual story in the end.

Technology: Educational apps that promote collaboration, such as *Endless Alphabet* (which can be played by more than one child), or group-friendly coding activities (like using robots that require shared commands) can be helpful in introducing the concept of working together through fun, tech-based activities.

Examples of Successful ECEC Projects Incorporating SDG 17:

- **Community Garden Initiatives:** Some preschools have created community garden projects where children, teachers, parents, and local volunteers work together to plant and maintain a garden. This not only teaches teamwork but also shows how partnerships extend beyond the classroom.
- **Partnerships with Local Organizations:** Early childhood centers often partner with libraries, museums, or environmental organizations to co-create educational events for children. These initiatives promote collaboration and expose children to different areas of learning while reinforcing the importance of community.

- **Classroom Buddy Systems:** Some programs implement buddy systems where older children help younger children with tasks or learning activities. This fosters a sense of responsibility, collaboration, and partnership between different age groups.
- **Global Pen Pal Projects:** Even at the kindergarten level, connecting children with classrooms from other parts of the world through pictures, simple letters, or videos can introduce them to the concept of global partnership and how working together globally can solve problems. Telling them stories in letters and sharing projects with photos promotes a feeling of teamwork across space and time.

By incorporating these activities, methods, and resources, children can better understand the principles of SDG 17 and see firsthand how partnerships lead to positive outcomes for themselves and their communities.



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