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Reaching out

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Sustainability in the nursery

Marvin Reyes describes some of the approaches to sustainability being employed at a nursery in Cologne.

Sustainability is a crucial development process, which includes every single person in the world. But how can we make sure this reaches everyone on the planet? Can sustainability be implemented in the early childhood education? Can everyone be part of it?

Vincerola is a day nursery and pre-school, located next to one of the busiest streets in Cologne, Germany. The school has a unique structure as it combines Montessori pedagogy with an international curriculum, delivered to many bilingual children. And recently it has embraced sustainability as its ethos.

Every day that passes, we become aware that our daily actions and behaviours are depleting the place which we as humans and all other living organisms are completely dependent upon, our planet earth. Every action has a reaction and current human behaviours are having an impact in the present and will continue to do so for future generations.

We must act now. Maria Montessori saw the need to educate children to become citizens of the world, and thus entitled to the wellbeing of ourselves and our planet. Cosmic Education is at the core of the Montessori pedagogy. Montessori strongly believed that it is in the child's hands that the future lies.

This makes me wonder, are we really aware of our daily

actions? How can we cope with real environmental problems? Can we implement sustainability in early childhood education?

Sustainability is an approach that bears in mind three main principles: Environment, Society and Economy. However, how can these three principles be implemented in the early childhood education? Not an easy task, but is also not an impossible one if it is taken step by step. Just like in the Montessori pedagogy, materials and presentations are broken down into little steps, so the child can easily understand what he/she is being presented with.

Vincerola has taken an alternative and innovative approach to embracing sustainability and real-life problems and has

been implementing the approach for the past six years.

Education for sustainability should begin very early in life. After all, it is in the early childhood period when children develop their basic values, attitudes, skills, behaviors, and habits, which may be

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- Our crafting materials are not from a store, they are only the recycled materials from our kitchen and packaging.

We have been documenting and observing the development process of this approach and have realised that creating, imagining, discovering, exploring and crafting takes a whole different level and is becoming a routine, not only for children but for practitioners as well.

- We have our own pond, where we have frogs and fish, thus fostering biodiversity, and there is a garden around it. In our urban garden, we plant vegetables, fruits, legumes and flowers.
- Didactic materials come out of recycled resources to support knowledge and understanding. We observe children's needs and develop materials to support their learning.
- We recycle the same paper towels we use to dry our hands, to do arts and crafts. Paper towels are converted into a dough and once is dry, it becomes very sturdy and hard. We have made solar systems, memory activities, marbles, spheres and geometric shapes.

to learn from each other. Some of our partners are:

- Haus der Kleiner Forscher (house of little scientists)
- AWB (recycling facility)
- Sewage treatment plant
- Newland (citizens' initiative for urban gardening)

- At Eye Level - Relationship with an institution that supports a small school in Gambia. This project is about helping teachers in Gambia to help themselves, so the project becomes self-sustainable and eventually able to run on its own. Once a year, one or two andragogy trainers from Vincerola travel to Gambia to train teachers at the school, focusing on creating Montessori didactic material from local sources. This once again is focused on learning how to use the resources around us in a creative way.
- At Christmas in Germany we sell our arts and crafts, paintings, make cookies and marmalade and the money collected goes to the institution; this project has been running for almost three years and is a work in progress.
- We include parents in the process as well. Keeping parents

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- We celebrate a variety of festivals, such as an Easter egg hunt in spring, Dance into May, Summer Party, St. Martin's parade, Carnival, and Christmas. If you work in a setting you know that these activities require preparation and lots of crafting to decorate.
- Throughout the year, we have a variety of field trips to places that help us understand more about sustainability, including:
 - Sewage treatment plant, where children are offered little projects about what sewage water is, how it becomes so dirty and how much effort it takes to clean it up.
 - Field trip to city disposal facility, to observe how things are being separated and recycled. Children become aware of how important it is to recycle properly and what is being done out this recycled waste. Now we know that compost is made out of organic waste and that old paper becomes recycled paper.
 - Regular field trips to some of the urban gardening lots. This is a citizens' initiative to make use of the empty space in the city. This place is loaded with up-cycled containers for plants and old doors converted into greenhouses, amongst other things.
 - Regular field trips to the forest to stay in touch with nature and the natural development of living organisms.

How is all this related to society? We have been implementing a series of social projects:

- Establish partnerships with other kindergartens or institutions,

informed, and thus involved in the processes, can be very beneficial for children.

- UNESCO Bildung für Nachhaltige Entwicklung (Education for sustainable development)
 - Fraunhofer Institut (Institute for technological development)
- We have only just started - our goals are to reduce our carbon footprint 60% by 2020 and to continue working bearing in mind the Sustainable Development Global Goals.

Therefore, I encourage you to explore and consider possibilities for projects and ideas about how you can guide the future generations towards the implementation of sustainability, consciousness, social global skills and responsibility in early childhood education, bearing in mind the 17 global goals for sustainable development.

Montessori's philosophy implies that we must aid and guide children to become conscious and responsible citizens of the world. In order for us to continue thriving, we must think of implementing a responsible and sustainable daily routine, being mindful of potential outcomes.

*If you think 1 year ahead, plant a seed,
If you think 10 years ahead, plant a tree,
If you think 100 years ahead, educate people.
(Chinese proverb)*

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long-lasting, forming part of their personalities. One must not see this challenge as a form of changing the world or people's minds, this is rather all about changing your own perspective and way of seeing things around you.

Implementing projects based on children's ideas and needs could lead to a variety of positive outcomes. Here is an example of a project:

In spring 2011, a child showed up with a bucket full of frog spawn. She said that her neighbours were going to throw them away. She felt bad for them and decided to bring them to the pre-school.

We prepared the environment for the eggs and started learning together everything about frogs, life cycle, what they eat, etc. After some time, they grew and grew to a point where they needed a bigger place to live.

Every day in circle time children and practitioners would have brainstorm sessions to find solutions to the problem. After some days one idea was always present, to build a pond. So, we did.

Then we built a garden around it. With the garden came lots of questions, such as where do vegetables come from, what do they need to grow, how can they be shared equally once they are ready, how to harvest them and how to prepare for next year.

So, it was not only about thinking of our present but the future as well. Children were thinking critically and coping with real-life situations and problem-solving skills. At the same time, they were learning about the development process of animals and plants. Moreover, all the pots in the garden were being constructed out of recycled materials.

After some time, we realised that the plants need lots of water, so we continued brainstorming ideas. A child said: "*Aber wenn es regnet, kommt viel Wasser*" (But when it rains, there is lots of water), so we all decided to construct something to collect the rainwater.

This was the project that triggered us to really embrace sustainability within our educational concept. The steps we have been taking along the way are quite simple and can be done as part of the daily routine. Let's start with the **Kitchen**: we all know that with every kitchen comes plenty of waste, but let's stop saying waste – from this point on, I will refer to it as **resources**.

The resources provided by the kitchen are mainly packaging, cereal boxes, tetra packs, cans, bottles, coffee grounds, plastic containers, and bottle caps, depending on the season of the year. But, where do we place it all? We came up with the idea of finding a room to store everything in. We called this the **Up-**

cycling Storage Room. The idea is simple, the staff in the kitchen are in charge of placing the resources into the storage room.

Once a week, the classroom teacher of every classroom goes into the storage room and collects material according to the needs in the classroom, thus keeping the **creativity corner** well nourished. There is a creativity corner in every classroom, as this is part of the Montessori approach. Children enjoy creating new things, they enjoy discovering, they are eager to develop their imagination and most importantly to have the freedom of expressing themselves in many different ways.

We offer children a wide range of purposeful and open-ended materials to allow them to see things as more than what they are, thus developing imagination, creative thinking

skills. In observations carried out to see the development in this area, we have observed that children are starting to see things differently. Feedback from parents suggests that children are carrying these behaviours and knowledge into their homes. They are now aware that a cardboard box or tetra pack, paper towel rolls and cardboard can be transformed in many different things.

Up-cycler

However, if you have a creativity corner in your setting, you most likely know that it can be messy from time to time, especially when you only craft things out of recycled material. We observed that this was creating an

unsettling atmosphere in the group, not allowing children to develop their sensitive period for order. So, we decided to do something about it, and that is when we came up with the up-cycler. This is a 'go-to' creativity cabinet. Its ergonomic design keeps every recycled material neat, organized and tidy, to maximize its productivity, thus allowing children to develop their sensitive period for order. The cabinet can be used from both sides, allowing easy access for more children to work at the same time.

Hands-on practice and Daily Sustainable routine

- We have established a project called BIO-KIDS. This project is about urban gardening, learning about plants and biodiversity, and it has been running for the past six years and is a living proof of a self-sustainable project.
- We offer the children a variety of paper and materials to draw on, including cardboard, cornflakes boxes, old magazines, and wrapping paper.
- We buy recycled eco paper for drawing and for office supply.

