SMALL SCHOOL NOTEBOOKS
Year 2025 - Notebook No. 11.2 - Tools

11.2
2025

The environment teaches. Outdoor teaching in small schools.

Flashcards for working in the classroom

by Vittoria Volterrani, Giuseppina Rita Jose Mangione and Stefania Chipa

Stories ☐
Tools ■
Studies ☐

Teaching in the woods

PICCOLE SCUOLE
TRAME SOCIALI IN RETE

INDIRE ISTITUTO NAZIONALE DOCUMENTAZIONE INNOVAZIONE RICERCA EDUCATIVA

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ITALY - Istituto Omnicomprensivo - IO Bobbio – Scuola Primaria di Travo - Valentina Armani, Elena Cromati, Ilaria Manfredi, Vittoria Volterrani

The *Biblioteca di Lavoro* (Work Library) was a unique and innovative editorial work, desired and directed by Mario Lodi and created between 1971 and 1979 by a group of educators made up of Fiorenzo Alfieri, Francesca Colombo, Tullio De Mauro, Caterina Foschi Pini, Alberto Gianola, Angelica Gianola, Roberto Lanterio, Palmira Maccarini, Luciano Manzuoli, Gioacchino Maviglia and Francesco Tonucci.

The idea was an educational project that emerged as an alternative to the single textbook. In a format carefully designed for essential functionality, 80 volumes including "Documents", "Readings" and "Guides", as well as 68 flashcards, offered ideas, suggestions and operational tools to teachers, leaving them the greatest freedom of choice for working according to the needs of their class.

A true encyclopaedia of the most significant teaching experiences carried out in Italy. A reference index from which teachers, parents and children were able to take inspiration to carry out activities, in any geographical and social situation, as alternatives to schooling based on the transmission approach, through a methodology structured upon tools permitting concrete and organic teaching interventions.

Mario Lodi and his collaborators wanted to help teachers and families get to know the child and help the child get to know him/herself and others.

We all want a better, humane and scientifically correct school that starts from the child's experience, in order to understand the world we live in. The *Biblioteca di Lavoro* (Work Library) helped to do this.

Cosetta Lodi
President of Casa delle Arti e del Gioco - Mario Lodi
http://www.casadelleartiedelgioco.it

Many years after the experience of the *Biblioteca di Lavoro* (Work Library), the desire to build a better school is still alive. However, still today, perhaps even more now than before, the resistance of schooling based on the transmission approach is strong and deeply-rooted, both in practices and in the imagination, as "normal schooling".

INDIRE has the task of providing support and visibility to research carried out by teachers that seeks to "carry teaching towards proposals, organisations and learning environments that enhance the value of students' autonomy and responsibility and are capable of developing significant knowledge, skills and lasting competences" (*Indicazioni Nazionali. Nuovi scenari,* 2017.) (National Directions. New Scenarios).

The operational tools of the *Biblioteca di Lavoro* (Work Library) conceived by Lodi were very effective in this regard. With their simple, clear language, basic form and the credibility of the research work deeply rooted in the practices and in the living experience of teaching, they contributed to the spread of active, inclusive and democratic ways of teaching. More than many programmatic documents, the documentation and teaching techniques included in this "encyclopaedia" have offered teachers tools for making changes and for acting coherently in practical terms, with a view to pedagogical innovation.

The *Small School Notebooks*, divided into "Stories", Tools" and "Studies", pay tribute to this experience, which is an example of how to value and follow up on the research and educational experimentation conducted in schools.

We thank Mario Lodi's heirs for having authorised the use and reworking of the material taken from the *Bilblioteca di Lavoro* (Work Library) and also Grandi & Associati, who collaborated in the publication of this volume.

Researchers of the INDIRE - Piccole Scuole group
http://piccolescuole.indire.it

Summary

1. Outdoor teaching in European schools

Notebook 11.2 offers small Italian schools the opportunity to open a window onto the international context in order to enrich their way of thinking and implement outdoor teaching.

"School was created based on the devil's instructions. Children love nature: they were parked in closed rooms. Children want to see that their activity has served a purpose: it was organised so that it had no purpose. They love to move around: they have been forced to stay still. They love to use their hands: only their brain was put into action. They love to talk: they were forced into silence. They would like to reason: they were asked to memorise. They would like to search for science: it was presented to them as ready-to-use".

(Adolphe Ferrière)[1]

Meirieu's provocation allows us to consider the topic of outdoor teaching the response to today's teachers' need to understand how to rethink spaces, both external and in nature, as elements that characterise the planning of teaching in small schools.

Today, numerous benefits are attributed to outdoor learning and are recognised internationally. Teaching outdoors:

- favours physical and mental well-being of students;
- promotes the different 'intelligences' and creativity[2] allowing the development of the '100 languages'[3] (Atchley, Strayer & Atchley, 2012; Beams, Higgins & Nicol, 2012);
- improves academic performance[4] (Li, Chiang, Sang, Sullivan, 2019) with attention focused on the memory of what is learned;
- contributes to the 'global' knowledge of subjects and less fragmentation (Knapp, 1996).

Annotations

1. Meirieu, P. (2019), *Una scuola per l'emancipazione (A school for emancipation)*, Rome, Armando editore.

2. Atchely, R. A., Strayer, D. L., Atchley, P. (2012), Creativity in the Wild: Improving Creative Reasoning through Immersion in Natural Settings, PLoS ONE 7(12):e5147.

3. Beams, S., Higgins, P., Nicol, R. (2012), Learning Outside the Classroom Theory and Guidelines for Practice, New York, Routledge.

4. Li D., Chiang Y., Sang H., Sullivan W. C. (2019), Beyond the school grounds: Links between density of tree cover in school surroundings and high school academic performance, Urban Forestry & Urban Greening, Volume 38, 2019, pages 42-53, ISSN 1618-8667, https://doi.org/10.1016/j.ufug.2018.11.001.

In light of these benefits, the 2022 Guidelines of the Ministry of Education *FUTURA* state: *Planning, building and living in the school of tomorrow*[5] focuses attention on the outdoor space as part of educational planning.

"Teaching in the open air, outdoors, leaving not only the classrooms but all indoor environments, is a path that has still not been explored very much by Italian schools. The schoolyards of numerous schools are underused today, even though they represent a great resource for educational. The pandemic, with the search for more spaces - also outdoors - for school activities, has made their inclusion among learning environments even more urgent. The outdoor environment is the place of choice for getting experience not only linked to nature (contact with the earth, observation of weather phenomena, cultivation), but also as an extension of the indoor environments. Outdoor spaces should be easily accessible from classrooms".

(MI, FUTURA Linee guida (Guidelines), 2022)

The INDIRE research carried out within the National Movement of Small Schools[6] observed that, in small schools (Cannella, Mangione & Rivoltella 2021)[1], enhancing the value of the place[7] makes it possible to enrich the education offered, "break" the boundaries of the classroom and consolidate alliances with the territory[8].

The Notebook aims to make interaction with the place the characterising element of outdoor education experiences in small schools. In the prospect hoped for by Donaldson and Donaldson[9] (1958), teaching is "in the place", "at the place", "for the place".
It is in the place because the nearby spaces that complete the classroom are mainly made up of natural environments that culturally and scenically define the identity of the community of which the school is part; it is at the place, because the territory is the object of study and discovery, at the centre of the curriculum for many subjects, also from

[1] Cannella, G., Mangione, G.R.J., Rivoltella, P.C. (2021), *A scuola nelle piccole scuole*. Storia, metodi, dinamiche (At school in the small schools. History, methods, dynamics), Brescia, Morcelliana – Scholè.

5. Ministero dell'Istruzione (2022) FUTURA. Progettare, costruire e abitare la scuola di domani (Planning, building and experiencing the school of tomorrow) https://pnrr.istruzione.it/wp-content/uploads/2022/05/LineeGuida_ScuolaFutura.pdf.

6. Mangione G.R.J, Chipa, S, Cannella G., (2022), Il ruolo dei terzi spazi culturali nei patti educativi territoriali. Verso una pedagogia della riconciliazione nei territori delle piccole scuole (The role of third cultural spaces in territorial educational pacts. Towards a pedagogy of reconciliation in the small school territories), in Di Pace, Fornasari, De Angelis (edited by), Il Post Digitale. Società, Culture, Didattica (Digital Post, Societies, Cultures, Didactics) (pages 171-205), Milano, Franco Angeli.

7. Gruenewald, D. A. (2003). The Best of Both Worlds: A Critical Pedagogy of Place. Educational Researcher, 32(4), 3–12.

8. Chipa S, Mangione G., Cannella G., (2023 in press), Patti educativi di comunità e spazi all'aperto nelle piccole scuole. Esiti di una rilevazione nazionale, INAPP Paper.

9. Donaldson, G. W., Donaldson, L. E. (1958) Outdoor Education a Definition, Journal of Health, Physical Education, Recreation, 29, 5, pp. 17-63.

Annotations

an interdisciplinary standpoint; it is for the place, because teaching in outdoor spaces is promoted as structured education that significantly contributes to achieving European key competences.

Collaboration with numerous small European schools allows us to understand the importance of teaching outdoors in enriching the educational plan and, at the same time, provides access flashcards that can be replicated and personalised.

Reference to the countries involved

The schools selected stood out for the achievement of European projects outdoors. For example, the Spanish, Turkish and Bulgarian schools had actively participated in eTwinning projects focused on sharing outdoor practices, useful for taking school subjects outdoors. The Norwegian and Icelandic schools boast numerous Erasmus experiences of Outdoor Learning.

Small schools, located in a rural and isolated context, were asked to describe their concept of outdoor teaching by answering 4 questions:

Annotations

1. What does outdoor learning represent in your vision of schooling?
2. Why and when did you decide to try your hand at outdoor learning?
3. Is it systemic or still in the experimental stage?
4. What benefits does it bring the students?

The answers to all the questions, presented in section 2 of the Notebook, reflect different ways of rethinking school, as well as different motivations, levels of maturity and attributions regarding the benefits that this educational method can bring to the student population. They contain numerous views capable of intercepting different situations, different contexts and different needs.

These schools were also asked to share several things with the Italian schools, including a few flashcards, projects of different levels from the first cycle of education (infant, primary and middle school[2]) in order to provide operational tools that can help teachers create outdoor schooling with different age groups, as in a multi-age class situation.
The flashcards, presented in section 3, allow teachers to understand which teaching situations can be associated and configured in the various spaces identified for the outdoor schooling. The teaching situations are taken from a taxonomy recognised at national level and proposed by INDIRE[10] through the group researching school architecture (fig. 2).

[2] In the case of Iceland, the school includes the 3-16 age group and the proposed activity is organised with students aged 14-15 years.

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Complete taxonomy of teaching situations

FRONTAL LESSON
Teacher's presentation to a group of students.

INDEPENDENT STUDY
Individual elaboration in a private area or niche that favours concentration.

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10. Cannella, G. (2019), La mappatura delle situazioni e dei setting didattici (Mapping of didactic situations and settings) in L. Tosi (edited by), Fare didattica in spazi flessibili (Teaching in flexible spaces), Florence, Giunti 2019, pp. 149-153.

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RECREATIONAL ACTIVITY
Learning pathway based on both analogue and digital play.

MENTORING
Learning supported by the teacher, who dedicates him/herself to the student based on specific needs.

PEER-TO-PEER
Learning supported by a peer.

WORKSHOP/EXPERIENCE
Activities aimed at observing phenomena, experimenting and reflecting on the experience.

COLLABORATION IN A SMALL GROUP
Activities carried out in small groups, generally based on cooperative learning.

DISCUSSION
Discussion between the members of a group, through the use of different interaction strategies.

STUDENT PRESENTATION
Presentation conducted by a student for a specific group of classmates or for the entire class group.

Annotations

ONLINE RESEARCH
Individual elaboration supported by digital technologies and the Internet.

REMOTE COLLABORATION
Activities carried out remotely as in the case of video conferences that put two groups in contact.

INDIRECT PRESENTATION (DISPLAY)
Displaying the work produced by students in a context suitable for viewing multiple products.

INTERACTION WITH THE EXPERT
Interaction with an expert that can take place in the school or remotely via: Videoconference.

SEMINAR EVENT
Plenary event that potentially involves the entire school community.

In addition, the flashcards have been organised by *thematic focus* and, for each focus, the *competence framework of reference* has been identified to look at in order to evaluate the students' development and educational success. The integration of the outdoor approach in daily teaching is described through different types of focus or trajectories of competence: subject-based, social and emotional, creative critical thinking, problem solving, across-the-board and digital skills. The flashcards contain references to the following competence frameworks:

- **21st century skills.** According to the World Economic Forum, in the report entitled "New Vision for Education Unlocking the

[3] https://en.unesco.org/icted/content/new-vision-education-unlocking-potential-technology

[4] https://casel.org/

Annotations

Potential of Technology"[3] the 16 twenty-first century "skills" are identified and divided into 3 categories: *fundamental skills* (foundational literacies), *across-the-board skills* (competencies, i.e. the tools with which students tackle complex problems) and *character traits* (character qualities, i.e. the ways in which students relate to the changing context).

- Socio-Emotional Skills in Learning (SEL). According to CASEL[4] (Collaborative for Academic, Social and Emotional Learning, University of Illinois – Chicago),5 main areas of social and emotional skills can be identified: *self-awareness, self-management, social awareness, relational skills and the ability to make responsible decisions.*
- **European Skills. The European Union identifies 8 key skills**[5] **(also called key citizenship skills)** that are developed in a permanent learning perspective, from early childhood to adult life, through formal, non-formal and informal learning in all contexts, including family, school, workplace, neighbourhood and other communities": *functional literacy; multilingual competence; mathematical competence and basic competence in science and technology; digital competence; personal and social competence and ability in learning to learn; social and civic competence in citizenship issues; business skills; competence in cultural awareness and expression.*

[5] https://education.ec.europa.eu/it/education-levels/school-education/key-competences-and-basic-skills

The taxonomies of teaching situations in outdoor spaces and in nature and the references to the competence frameworks included in the flashcards provides teachers greater focus on the opportunities for outdoor learning with respect to the goals of quality and inclusiveeducation that can accompany students in their personal fulfilment and commitment to active citizenship.

Annotations

2. International schools: benefits and systematisation of outdoor teaching

SPAIN

SCHOOL 1
Ceip Guliena - Escuela de vida y para la vida - Guillena, Sevilla
Alma Gil Navas - Headmistress and teacher

SCHOOL 2
CP Monte San Julián - Navarre
Raquel Rodríguez Cortés - Teacher

What does Outdoor Learning represent in your school's vision?
(SCHOOL 1) Outdoor learning is part of our philosophy. Our school has an Eco-school programme thanks to which we work outdoors, in contact with nature, a concept that represents one of the cornerstones

Annotations

of our philosophy. In our school, we have a nature classroom where scientific subjects are taught and students can see and explore how vegetables are planted, how they grow, how they are harvested...
In addition, our school has an agreement with the "Los hijos del Viento" Association through the "School in the mountains" programme, thanks to which, every trimester, we carry out hiking, Nordic walking and orienteering activities in nature.

(SCHOOL 2) My school has been committed to innovative education for 10 years, in which students are the protagonists of their learning. In this new approach, we try to take advantage of our natural school environment and integrate it into learning.

Why and when did you decide to start Outdoor Learning?
(SCHOOL 1) We decided to start working on outdoor learning when we realised that it brought benefits to students. In addition, several associations collaborate with us on the importance of learning in nature. Our school is lucky to be located in a rural area, allowing us easy access to natural spaces that are just a few minutes' walk away.

(SCHOOL 2) The first time I decided to concentrate learning in the school environment was with this project. Until now, I had worked a great deal on classroom activities with the STEAM methodology and, when I was accepted into the "Little schools Outdoors" eTwinning project in 2019 and saw the ideas of my European partners, I felt encouraged to investigate and see what possibilities the environment offered. I also saw that the students liked to work outside the classroom and investigate.

Is this a systemic action or is it still in the implementation phase?
(SCHOOL 1) For two years now, precisely because of the different benefits experienced, our school has decided to make the outdoors

Annotations

systemic and integrated into the curriculum. We also intend to continue researching and implementing it increasingly.

(SCHOOL 2) Since that European project, it has been implemented systematically and extensively into all the courses at the Education Centre. It has motivated all of us partners and all the teachers at the Centre to integrate our marvellous environment into the teaching activities.

What benefits does it bring the students?

(SCHOOL 1) Outdoor learning not only helps students to acquire knowledge from nature but also to put what they learn in the classroom into practice through observation, application and social growth in real life. It makes learning accessible to all types of students, regardless of their personal learning styles.

The experience offers children the opportunity to participate in cooperative and group activities that improve their social and communication skills.

The emotional well-being of students also improves when they engage with nature, outdoors and in a conscious way.

(SCHOOL 2)

Students feel that they are a part of their learning, as the environment constantly calls them to explore and share what they see with the teachers and the other the students. The material found is totally manipulative and this means that students have a lot of fun carrying out the activities and creating their own. It also gives them more mobility than in the classroom, so they feel more comfortable and less tired when carrying out the activities. It also makes it possible to create different and larger groups than in the classroom.

Annotations

Bulgaria

SCHOOL
OU Hristo Botev - Varna
Marina Tomova - Teacher

What does Outdoor Learning represent in your school's vision?
One of our school's main goals is to promote a love of the outdoors and help children appreciate their role in nature and the world around them, while at the same time progressing academically and personally. The school is a long way from the big city and it has plenty of natural resources in the immediate vicinity: sea, river, scenic areas and historical places, which facilitate the application of ideas regarding the method.
In our school, we use Outdoor Learning in almost all subjects and classes.
In addition to learning in nature, outdoor learning can, for us, also include visits to museums, workplaces, city visits and events.

Why and when did you decide to start Outdoor Learning?
In our school community, the idea of connecting children to nature while learning is not new. However, real planned and systematic outdoor education has been implemented, resulting from the launch of the "Little schools Outdoors" eTwinning project in 2019, followed by a structured course, funded by Erasmus+, on outdoor education in which two of our teachers participated.

Annotations

Is this a systemic action or is it still in the implementation phase?
We cannot say that outdoor learning has been fully implemented in all of our school's classes and subjects, due to the school curriculum being overloaded and inflexible. There are still some misconceptions about outdoor learning and we are trying to convince the authorities and the parents that it is not simply about playing outdoors.
However, all the teachers, especially those in primary schools, often take their classes outdoors, at least two or three times a month, especially in spring and summer.

What benefits does it bring the students?
Contact with nature promotes neural connections, as it activates a multitude of senses. It promotes the production of endorphins and the satisfaction of a much more experiential type of learning. Numerous studies show that using the outdoors as a learning space improves academic performance and improves the relationship that the student has with the environment. If you know something, you love it, you respect it, you defend it. This is our philosophy.

Turkey

SCHOOL
Taşkent Türk Primary School - Taşkent
Elem GÖKTAŞ - Teacher

What does Outdoor Learning represent in your school's vision?
Outdoor Learning is an important element in our school's vision. We are aware that school is not limited to four walls and that outdoor learning is increasingly enjoyable and long-lasting, because it is the result of an active experience in reality.

Why and when did you decide to start Outdoor Learning?
I decided to learn outdoors in the early years of my profession and have continued for 17 years. For some games and activities, we take

the children outdoors, into the woods or the garden. In this way, we have always seen children learn with joy and without discipline problems. When we noticed the positive effects of learning outside of the classroom, we increased the activities and participated in lots of projects linked to learning outside of the classroom.

Is this a systemic action or is it still in the implementation phase?
We continue to practice learning outside of the classroom. Sometimes there are difficulties during implementation or preparation, but it is still worthwhile when considering the effects it has. There is always beauty behind the difficulties. Seeing the happiness on children's faces makes you forget all the tiredness and possible problems.

What benefits does it bring the students?
Learning outside of the classroom makes children happy. Children always love being outdoors. Learning takes place with natural materials in nature and it is permanent. Nature seems to have a healing power on all of us and this is also reflected in the children. With clean air, plenty of oxygen and enjoyable activities, it is easier to achieve results. When we asked the children what the school of their dreams was, the answer most of them gave was: "Flowers, a big garden, animals, etc. Nature is part of us and we love being outdoors".

Annotations

Norway

SCHOOL
Sviland School
Renate Furenes - Teacher

What does Outdoor Learning represent in your school's vision?
In our school's vision, outdoor learning is one of the many possible and important methods for learning.

Why and when did you decide to start Outdoor Learning?
I started working at school in 1998, implementing outdoor teaching from year one to year four primary school classes. There was a reform of the school system (L97), based on which children had to start school at the age of six, not seven, and the new curriculum underlined that play should be a very important method in the first years of school. We therefore started outdoor schooling by associating it with play-based teaching and structuring one day a week outdoors for years one and two primary school classes and 3 - 4 hours a week for years three and four. In 2006 there was a new reform and a new curriculum (K06) and in the year one classes there was strong pressure to improve reading, writing and mathematics skills. This is unfortunately at the expense of outdoor learning, although it has remained one of the possible methods for curricular lessons. In 2020, during the pandemic, we were forced to use outdoor schooling as much as possible, every day for months. So, we prepared lesson plans and materials for outdoor learning. In 2020, we obtained a new national curriculum and started working with our new local curriculum. Since then, outdoor learning has been systematically utilised as a method to use.

Is this a systemic action or is it still in the implementation phase?
It is systemic action. The year one and two primary school classes

Annotations

have one day of outdoor lessons every week, year three has 3 hours almost every week and the higher classes have outdoor lessons when the teachers find it natural.

What benefits does it bring the students?
I think that outdoor schooling has a positive impact on children. It is a great opportunity for working on both social skills and theoretical and practical subjects. It is an opportunity to get to know each other better, to listen and talk together and to educate children. The outdoors offers a good opportunity for adaptive learning and for learning in different ways and with different senses. It is a type of learning that lasts a lifetime.

Slovenia

SCHOOL
Primary School Kobarid
Aurora Calvet - Teacher

Responses provided by teachers Aurora Calvet, Irena Stergar, Damjana Nanut, Evelina Kravanja and Tina Fratina.

What does Outdoor Learning represent in your school's vision?

- I am a child of nature and I love learning outdoors.
- I would like to introduce children to the beauty of nature.
- Outdoor learning contributes to healthy development.
- Outdoor learning can be a lot of fun and allows us to learn experientially.
- I believe that this type of learning increases motivation and improves students' academic results, manual skills and behaviour.

Annotations

- The most important thing is that children spend a lot of time outdoors and at the same time learn better and more easily.
- Children are much more relaxed and ready to learn in a natural environment.

Why and when did you decide to start Outdoor Learning?
We decided to start outdoor learning activities during and immediately after the Covid period. Our main goal was to be outdoors as much as possible and still learn the things written in our programme. We prepared our activities in a way that would arouse emotions and be connected to the nature around us, thus giving children the opportunity to learn outside of the classroom and be active students. We achieved many of our goals more effectively. The children participated more during learning and had a great response. We had lessons in mathematics, science, art, foreign language, Slovenian, music and much more. Our students liked it very much.

Is this a systemic action or is it still in the implementation phase?
This way of learning is very close to children. They are calmer and more open to learning in nature than they are in the classroom. That is why we carry out this type of teaching systematically, at least once a week.

What benefits does it bring the students?
Children love to play and move around outdoors, so lessons in nature are beneficial to everyone. The children were enthusiastic, motivated to work and, as they were outdoors, they didn't even feel that the lesson was taking place. The activities were very interesting and were carried out in an optimal way. The children acquired numerous skills, most of which were group skills. Socialising and working together encouraged children to have social contact, tolerance and make compromises. Furthermore, the teachers also benefited from the fresh air, the walks in nature and the different approaches to the activities.

Annotations

Italy

SCHOOL

Istituto Omnicomprensivo di Bobbio - Primary school in Travo




Vittoria Volterrani, Valentina Armani, Elena Cromati, Ilaria Manfredi - Teachers

What does Outdoor Learning represent in your school's vision?

We live in a beautiful valley and nature is always at our fingertips. It is a small, sometimes micro-dimension, but it allows us to have enormous potential at our disposal. From this awareness, an action took shape, which was initially occasional and kicked off the first experiments, gradually leading us to consider outdoor learning a fundamental and habitual process at our school, especially in infant and primary school, but also at other school levels. Outdoor Learning has been included in the school's PTOF (Three-year Educational Plan) for several years now and it is known to teachers, parents and the community. It fully

Annotations

embraces the type of active teaching centred on students and geared towards skills that we have introduced and partially stabilised. The goal is holistic education, the type that deals with forming the different spheres of a person, in order help younger generations acquire all the skills useful for living in a changing and complex world.

Why and when did you decide to start Outdoor Learning?

From the initial attempts made by several teachers, with outdoor readings or exploratory walks in the summer, we came to develop a different and more structured concept of outdoor learning, thanks to the international experiences. It was 2015, when we followed our intuition and wrote an Erasmus KA101 that focused on innovation through the increase of the digital element, active methods and Outdoor Learning. Thanks to that project: *Nature, innovation and ICT*[6], a new dimension of outdoor teaching opened up for us, which was more structured, less random and more aware. Above all, it became clear that nature and reality were fundamental for students and a perfect link to all subject areas. This happened during job shadowing, thanks to the comparison with other European schools, especially the northern ones, which demonstrated superior processes and experience, or in structured courses that allowed us to acquire teaching techniques and methods easy to implement outdoors and provided examples of activities that have become the basis and the start of many others that we directly developed ourselves.

[6] INDIRE video of the experience https://youtu.be/GEVECs8pOiU

Is this a systemic action or is it still in the implementation phase?

Our school is made up of 14 complexes along 70 km of road, with 4 school levels and characterised by a certain turnover of teachers. Creating a widespread and complete system is extremely complex. For numerous infant and primary school complexes, learning outdoors is undoubtedly a systemic action, as it is for individual secondary school teachers. The institute has developed a good level of general implementation of outdoor teaching, which tends to grow year after year.

Annotations

For some schools it is no doubt already an essential and systemic procedure.

What benefits does it bring the students?

The benefits affect all areas of personal development. It is a way of learning that respects the student and that perfectly fits with what neuroscience has, not even too recently, discovered.

Students participate with greater interest and enthusiasm and they learn in a lasting way, because their understanding is based on experience, and they increase their academic and across-the-board skills. Learning always passes through the motorial, emotional and relational state, as well as the intellectual one.

Students learn about working together, shared success and resolution as the result of sharing.

They learn to observe nature and therefore to see it in all its perfection. They learn to love and respect it and to take action to preserve it.

Annotations

3. Flashcards: how to integrate the outdoor approach into daily teaching in a national and European dimension

3.1 Focus on subject-related skills

Taking subjects outdoors is the primary aim of this notebook, specifically to prevent outdoor school from being experienced as recreational or sporadic and not as a real and stimulating learning environment, in which the student, through tangible experience and active teaching, can stratify knowledge, develop abilities and structure skills supported by significant and therefore lasting understanding, because they are the result of shared experience.

All subjects can be taken outdoors and, at all ages of the first cycle of education, the necessary conditions can be created to acquire specific and in-depth subject-related content.

An adequate teaching schedule and a process that must be developed with continuity are necessary.

Annotations

Spagna - CP Monte San Julián - Navarra
LINGUA MADRE - Scrivere in cortile

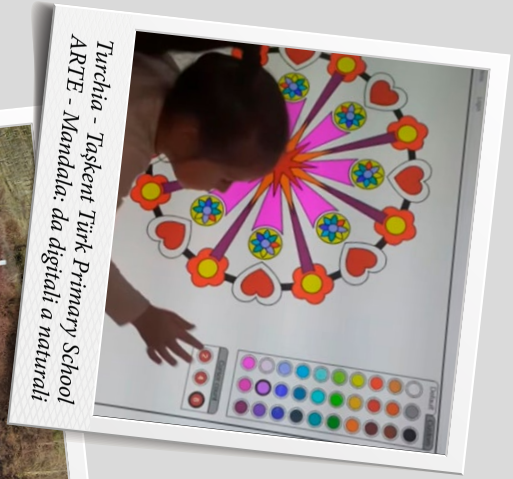
Turchia - Taşkent Türk Primary School
ARTE - Mandala: da digitali a naturali

Norvegia - Sviland School - SCIENZE
e LINGUA MADRE - Alberi

Italia - IO Bobbio Primaria Travo
MATEMATICA - Calcoli per aria

Italia - IO Bobbio Primaria Travo - LINGUA INGLESE - Flashcards in the garden

Italia - IO Bobbio Primaria Travo LINGUA MADRE - Il TG dei libri



Turchia - Taşkent Türk Primary School ARTE - Mandala: da digitali a naturali

PHOTO GALLERY: SUBJECT-BASED SKILLS

Teaching activity

Writing in the schoolyard

Country
Spain

School
CP Monte San Julián

Location
Tudela (Navarre)

Teacher
Raquel Rodríguez Cortés

Subjects involved
Autonomy, native language and foreign language, motor-manipulative skills, art, mathematics

Target age
4-6

Outdoor spaces

Schoolyard.

Activity time

2 lessons.

Materials needed

Cardboard

Markers

ICT integration

Use of a tablet for documentation.

Methods and techniques

Team building

Collaborative activities with a preparatory role in Cooperative Learning

Skills and competences

EU Competences

Mathematical competence and scientific, technological and engineering competences

Functional literacy competence

WEF - 21st Century Skills

Creativity

Collaboration

Communication

Functional literacy competence

Monitoring

Journal and diary with photo.

Evaluation

Final product.

Description of the activity

1 **PREPARATION** – Before the activities begin, the teacher or an associate hides big words on cards in the schoolyard or in the nearby playground.

2 FORMING GROUPS – The teacher organizes the children into groups of 4/6 and gives each group a word/drawing flashcard. Group roles are assigned: 1-2 children write, 1-2 children draw, 2 children cut out the drawings.
The teacher supervises.

COLLABORATING IN A SMALL GROUP

CLASSROOM

3 EXPLANATION - At the end of the activity, the teacher tells the children that the activities will continue outdoors and invites the groups to go out into the schoolyard or to the nearby playground. The teacher explains that the same groups will start a word hunt and gives each of them a sheet of white paper on a clipboard and a pencil.

FRONTAL LESSON

SCHOOLYARD OR PLAYGROUND

4 **ELABORATION** – Each group must look for the words in the schoolyard and, taking turns, write them on the sheet of paper. The teacher takes a photo during the activity. At the end of the allotted time, the teacher invites the students to return inside.

COLLABORATING IN A SMALL GROUP

SCHOOLYARD OR PLAYGROUND

5 **SHARING** – Once back in the classroom, each group shares the words they found by using the photos taken and showing them on the screen. The words are counted and checked.

STUDENT PRESENTATION

CLASSROOM

Teaching activity

Mandala: from digital to natural

Country
Turkey

School
Taşkent Türk Primary School

Location
Taşkent

Teacher
Elem Göktaş

Subjects involved
Nature, plants, seasonal changes, colours and symmetries

Target age
5-6

Outdoor spaces

Schoolyard or the nearby wooded area no more than 5 minutes away on foot.

Activity time

Two 40-minute lessons.

Materials needed

Natural materials like leaves, pine cones, stones and branches gathered in nature.

ICT integration

Before the activity, a digital mandala is created with the children in class, using the Colormandala web tool. In this process, children are encouraged to pay attention to appearance, symmetry, colour, etc.

Webtool: colormandala.com

Methods and techniques

- Collaborative learning
- Learning by doing
- Game-based learning

Skills and competences

EU Competences

- Personal and social competences and the ability to learn how to learn
- Digital competence
- Mathematical competence and scientific, technological and engineering competences
- Competence in cultural awareness and expression

WEF - 21st Century Skills

- Critical thinking and problem solving
- Creativity
- Collaboration
- Digital literacy
- Curiosity

Description of the activity

1 **PRESENTATION** – The teacher tells the students in the class that they will paint a digital mandala and provides brief information about the mandala, suggesting examples on the digital board. The teacher opens the Colormandala web tool and discusses the possible colours, symmetries and shapes to use during digital painting with the students.

FRONTAL LESSON

CLASSROOM

2 PROGRESS – Based on the equipment available, the students paint the mandala on a digital board, on a smart board by taking turns or on tablets in small groups.

RECREATIONAL ACTIVITY

CLASSROOM

3 EXPLANATION – Once the activity is finished, the teacher announces that they will go out into the school garden to observe nature. The season is autumn and we expect to see the changes in nature.

FRONTAL LESSON

CLASSROOM

4 OBSERVATION – In the school garden, the children are left free observe and explore. The teacher informs the children that they can collect the natural elements they want without tearing anything up: fallen autumn leaves, pine cones, stones, etc.

INDEPENDENT STUDY

GARDEN OR SCHOOLYARD

5 COLLECTING AND SHARING – As they collect objects, the teacher listens to the children's observations on the changes in nature, highlighting the seasonal changes, colours and the need to protect nature.

EXPERIENCE

GARDEN OR SCHOOLYARD

6 BRAINSTORMING – The materials collected are put in a specific place. The teacher invites the children to stand in a circle around the materials, hand in hand, and a game is played with the autumn poem. At the end of the game, brainstorming on what can be done with the collected materials is conducted.

DISCUSSION

GARDEN OR SCHOOLYARD

7 PRODUCT CREATION – The children collaborate to create a natural mandala, inspired by the digital mandala they have already created. In this phase, there needs to be intense communication between the children. The teacher documents and monitors the entire process through photos and voice recordings and notes his/her observations in a diary.

COLLABORATING IN A SMALL GROUP

GARDEN OR SCHOOLYARD

8 FINAL DISPLAY – The mandala finished by the students stays in the school garden as a product and is put on display.

STUDENT PRESENTATION

GARDEN OR SCHOOLYARD

At the end of the activity, the children should have absorbed the following information: the leaves turn yellow and fall in autumn; the mandala is created from the inside out and from the outside in. The mandala has its own symmetry; digital and natural elements can help learning; working together leads to better results in a short time.

Teaching activity

Trees

Country
Norway

School
Sviland school

Location
Sandnes

Teacher
Renate Furenes

Subjects involved
Science, native language

Target age
9-10

Outdoor spaces

The nearby forest, 30 minutes away on foot, and the schoolyard.

Activity time

Five one-hour lessons.

Materials needed

Billboard with identification keys

Small bags

Bingo card

ICT integration

Read and listen to the information about different types of trees on the pages of an online website.

Website: laeremedskogen.no/temasider/treslag

Methods and techniques

Cooperative learning

Investigative learning

IPG (individual, peer, group)

Skills and competences

EU Competences

Competence in the subject of citizenship

WEF - 21st Century Skills

Curiosity

Collaboration

Communication

Critical thinking and problem solving

Monitoring

Grid and diary.

Evaluation

Practical performance, level of collaboration in the group, accuracy of the presentation, confidence in arguing the presentation.

Description of the activity

1 **(Day 1) DISCUSSION AND BRAINSTORMING** – The teacher opens the discussion in pairs through a few open questions and writes down the answers on the blackboard: *Why do you think trees exist? Why are they important for life on earth?* The teacher then turns to the whole class for an open group discussion: *How many different trees are there in our schoolyard?*


DISCUSSION

CLASSROOM

2 **TASK ASSIGNMENT** – The teacher takes the children outside into the area around the school, organizes them into groups of 4 and asks them to figure out how many different trees there are. He/she asks them to collect at least one leaf from each different tree. He/she then lays out the poster with the identification keys in an open area and, while they are collecting the leaves, invites the children to use them to identify the trees. At the end, the teacher asks them to bring the materials into the classroom to press them or let them dry out.


EXPERIENCE

NATURAL AREA AROUND THE SCHOOL

3 (Day 2) DISCUSSION AND PRESENTATION – The teacher opens up a class discussion on how to take care of trees, while receiving and taking note of the different answers given by the students. The teacher presents *Allemannsretten*, the rules of behaviour in nature and, along with the students, watches the film about seed dispersal. After collecting their feedback, he/she asks the students to get ready to go to the nearby forest.


DISCUSSION

CLASSROOM

4 **EXPERIENCE** – Once there, the students gather all the seeds they can find in nature. They form a circle, show the seeds to each other and try to understand which plant they belong to.


EXPERIENCE

FOREST NEAR THE SCHOOL

5 **OBSERVATION AND DISCUSSION** – Back in the classroom, the discussion on the characteristics that allow the seeds to spread begins, also thanks to a document camera.


DISCUSSION

CLASSROOM

6 (Day 3) GAME – Tree Bingo: Students work in groups, trying to find trees/leaves from the different trees in their table.


RECREATIONAL ACTIVITY

CLASSROOM

7 (Day 4) CREATING THE FINAL PRODUCT – The teacher organises the class into groups and invites the students to study the pressed leaves. Each group chooses a type of leaf or tree to research in greater depth. The teacher reminds them that they can find the information in various books provided and available on the website laeremedskogen.no/temasider/treslag. The students prepare a digital presentation and a poster about the chosen tree/plant.


COLLABORATING IN A SMALL GROUP

CLASSROOM

8 (Day 5) COMMUNITY INVOLVEMENT – Each group presents their tree to the class, with all the digital posters, printed on paper, and an exhibition is organised in the school corridors. You can invite the community and support the event, with digital presentations and fun activities for participants.


STUDENT PRESENTATION

CLASSROOM

Teaching activity

Book News

Country	School	Location
Italy	I.O. Bobbio - C. Fracchioni Primary School	Travo (Piacenza)

Teacher	Subjects involved	Target age
Valentina Armani	Italian, art, technology	7-14

Outdoor spaces

Village square or other outdoor public space that is a transit area for people.
In this case: the village square, where the school is located, or a walk along the Trebbia river, which can be reached on foot in 5 minutes.

Activity time

Time for individual reading of the book (2-3 weeks depending on the age of the students)
Peer to peer interviews (about 45 minutes)
Event preparation (about 2 hours)
Poster distribution (about 30 minutes)
Outdoor book news (about 1 hour)
Metacognitive reflection (about 15 minutes)

Materials needed

Books already read and any related products
Table or outline for interviews
Easy-to-use school supplies
Devices (depending on the age of the students)
Fishing stools for students
Microphone with speaker (if necessary)
Posters/billboards to advertise the event
Possibly a video camera for recording

ICT integration

Creation of advertising posters, event logo and information boards. Recording of the event with a video camera to document the activity and later create a short video summary and/or photos for digital presentation.
Software: Animoto, Canva, Adobe Express or similar.

Methods and techniques

Individual reading
Peer to peer or small group
Cooperative learning
Learning by doing

Skills and competences

EU Competences	WEF - 21st Century Skills
Functional literacy competence	Functional literacy competence
Personal and social competences and the ability to learn how to learn	Collaboration
Competence in the subject of citizenship	Communication
Competence in cultural awareness and expression	Curiosity
	Adaptability
	Initiative
	Social and cultural awareness
	Digital literacy

Monitoring

Direct observation, grid, checklist.

Evaluation

Practical performance, path development, products, academic results, working methods, exhibition safety.

Description of the activity

1 **READING** – Individual reading of the book chosen (from the school library and/or the municipal library).

INDEPENDENT STUDY

CLASSROOM AND CONNECTING SPACES OR OUTDOOR SPACES; AT HOME

2 **INTERVIEW** – Interview in pairs, about the books read, by filling in a shared table modified according to age. The plot of the book is not revealed; the main elements are described to arouse curiosity for reading. The pairs rotate. The interview is useful, allowing the student to focus on the contents to be presented and ensuring clear, complete and effective communication. The teacher verifies and evaluates the success of the activity, providing support, where necessary.

PEER-TO-PEER

CLASSROOM AND CONNECTING SPACES OR OUTDOOR SPACES

3 PREPARATION – Choosing the date and location, a transit area such as the village square, a promenade or a market, where you can hold the newscast. The students, divided into groups, with a cooperative learning project, will prepare a short theme song for the newscast, a logo for the event, advertising posters with slogans to attract the attention of passers-by and information boards to hang in the chosen location. The teacher moves around the groups to check and evaluate the success of the activity, providing support where necessary. Depending on the age of the students, the logo, posters and billboards can be made of paper or in digital format.

COLLABORATING IN A SMALL GROUP

CLASSROOM

4 PROMOTION – Distribution of advertising posters to commercial establishments, communication to parents of children in the class, a notice on the class blog and/or school website.

EXPERIENCE

OUTSIDE THE SCHOOL

5 **SETUP** – Students set up the space by positioning the information boards. They sit in a semicircle on fishing stools, so as to have the audience in front of them. If the place is large and crowded, it is best to use a microphone with a portable speaker.

EXPERIENCE

OUTDOOR PUBLIC SPACE

6 **START OF NEWSCAST** – Once the audience has gathered, the theme tune of the newscast begins. Each student presents their book in conversational form, showing it to the audience (about 5 minutes each).

STUDENT PRESENTATION

OUTDOOR PUBLIC SPACE

7 **DISCUSSION** – To think about, discuss and address the content of the book presented, classmates, the audience and teachers can ask the student questions (about 5 minutes).

DISCUSSION

OUTDOOR PUBLIC SPACE

8 METACOGNITIVE REVIEW – Through stimuli-questions, each student is invited to think about their work and the class group to think about the success of the event. The work can be done in pairs or groups.

DISCUSSION

CLASSROOM AND CONNECTING SPACES

Possible developments – The book newscast can be monthly or scheduled differently. Starting from the recording of the event and the photographs, students can be involved (with a level of autonomy depending on their age) in the creation of videos or digital presentations, the first simple forms of book trailers.

Teaching activity

Flashcards in the garden!

Country	School	Location
Italy	Travo Primary School	Travo (Piacenza)

Teacher	Subjects involved	Target age
Elena Cromati	English	6-7

Outdoor spaces

Garden, schoolyard or any large outdoor space.
In this case: the village square, where the school is located, or a walk along the Trebbia river, which can be reached on foot in 5 minutes.

Activity time

Time for presenting the topic to the students (two 1-hour lessons)

Preparing the outdoor activity (about 10 minutes)

Playing the game (about 30 minutes)

Metacognitive reflection (about 15 minutes)

Materials needed

Flashcards with images of the chosen topic

ICT integration

Use of several tools like Learningapps and Wordwall.

Methods and techniques

Game-Based Learning

Peer-to-peer

Skills and competences

EU Competences	WEF - 21st Century Skills
Functional literacy competence	Functional literacy competence
Multilingual competence	Collaboration
Personal, social and learning to how to learn competence	Communication
Competence in the subject of citizenship	Curiosity
Competence in cultural awareness and expression	Adaptability
	Initiative
	Social and cultural awareness

Monitoring

Direct observation.

Evaluation

Practical performance, path development, working methods.

Description of the activity

1 **FRONTAL LESSON** – Presentation of new knowledge; more specifically, the topic is school objects.

FRONTAL LESSON

CLASSROOM

2 **INTERACTIVE LESSON** – The vocabulary covered during the previous lesson is consolidated through completion exercises and recreational activities, sometimes individual ones, also with the support of ICT (exercises with Learningapps or Wordwall), and sometimes in pairs or small groups.

PEER-TO-PEER

CLASSROOM AND CONNECTING SPACES

3 PREPARING THE ACTIVITY – The class goes outdoors, specifically to the park located along the Trebbia river. The students compete in pairs (2 children walk across the lawn, while the others remain seated); the flashcards of the school objects have already been placed in random order on the lawn, so that they are clearly visible. When the teacher says the name of an object, the first of the two students to reach the card mentioned remains in the competition, while the other player instead returns to his or her place and a new partner is called to challenge the winner.

RECREATIONAL ACTIVITY

OUTDOOR SPACES

4 METACOGNITIVE REFLECTION – Each student is invited to ponder over their level of learning with stimuli-questions. Il class group is invited to think about the success of the activity with stimuli-questions.

DISCUSSION

OUTDOOR SPACE

Possible developments – The flashcard activity can be used with any type of topic. Different rounds can be proposed, increasing the level of difficulty; for example, instead of just pronouncing the object, sentences containing the words depicted can be said (*It's a blue rucksack*), thus implementing the constructions as well as the vocabulary, or instructions can be given such as *Go to the green ruler, please; show me the yellow book, please*; once again, the students who are gradually eliminated can lead the game.

Teaching activity

Calculations in... the air

Country: **Italy**

School: **Travo Primary School**

Location: **Travo (Piacenza)**

Teacher: **Ilaria Manfredi**

Subjects involved: **Mathematics**

Target age: **8-10**

Outdoor spaces

A sufficiently large space is needed for this activity, to allow the different teams to run.
In this case: a riverside area that can be reached on foot in 5 minutes.

Activity time

Activity 1 (about 25 minutes)

Activity 2 (about 40 minutes)

Materials needed

- Multiplication table calculation cards
- Multiplication table results cards
- Boards with values corresponding to the coloured strands of wool
- Sheets of white paper
- Markers
- Calculators
- Cardboard to lean on when writing
- Strands of different coloured wool

ICT integration

Using the calculator.

Methods and techniques

- Game-Based Learning
- Peer-to-peer

Skills and competences

EU Competences

- Mathematical competence and scientific, technological and engineering competences
- Entrepreneurial competence

WEF - 21st Century Skills

- Critical thinking and problem solving
- Collaboration
- Persistence and determination

Monitoring

Grid.

Evaluation

Practical performance and final product.

Description of the activity

1 **EXPLANATION** – With the necessary materials, lead the class outdoors and introduce the first activity.

FRONTAL LESSON

LEVEL PLAYING FIELD

2 **MULTIPLICATION TABLES RELAY RACE, PHASE 1** – Divide the students into teams. Position them at the starting line, in a row, one behind the other. Place the deck of cards with the multiplication table calculations (e.g. 3x4) in the middle of the track. The cards must be placed one on top of the other with the deck facing down. Scatter the cards with the results written on them on ground at the end of the track, making sure the results are visible. When the teacher gives the signal, the first child starts running, reaches the calculations deck of cards, draws the first card, reads the calculation, runs to the next stage, identifies and draws the card with the corresponding result on it, returns to the starting point, places both cards in the base and high fives his/her team-mate, who, in turn, sets off again.

RECREATIONAL ACTIVITY

LEVEL PLAYING FIELD

3 **MULTIPLICATION TABLES RELAY RACE, PHASE 2** – At the end, each team checks the pairs of cards done and the team members reason and check the results. One point is awarded for each correct pair of cards.

DISCUSSION

LEVEL PLAYING FIELD

4 **WOOL ADDITIONS, PHASE 1** – Divide the students into teams. Hide and scatter the coloured strands of wool in the surrounding nature. In the first phase, each team has 5 minutes to search for, find and gather up the greatest number of strands of wool possible. When the time is up, the teacher reveals the value assigned to each coloured strand (e.g. black is worth 147; red is worth 1470, etc.).

RECREATIONAL ACTIVITY

LEVEL PLAYING FIELD

5 **WOOL ADDITIONS, PHASE 2** – Each team has sheets of white paper and markers to calculate the total value of their strands of wool. Time available: 15 min. Each team gives the teacher the strands and the total calculated.

DISCUSSION

LEVEL PLAYING FIELD

6 WOOL ADDITIONS, PHASE 3 – Each team checks the correctness of the result obtained using the calculator. All the teams that calculated correctly win.

COLLABORATING IN A SMALL GROUP

LEVEL PLAYING FIELD

3.2 Focus on social and emotional skills

Social and emotional skills are defined as individual abilities that:

- are manifested in coherent patterns of thinking, feeling and behaviour;
- can be developed through formal and informal learning experiences;
- influence important socio-economic outcomes throughout life (Oliver John and Filip De Fruyt 2015).

"Social-emotional learning is the process by which all young people and adults acquire and apply knowledge, skills and attitudes for developing healthy identities, managing emotions and achieving personal and collective goals, feeling and showing empathy for others, establishing and maintaining supportive relationships and making responsible and careful decisions" (C.a.s.e.l.)[7].

They are therefore essential for a person's development, indispensable in the complex current social context and are useful for supporting academic learning[8].

In Italy, however, they are little-known and are even less the object of systematic and conscious work in the classroom by many teachers. The development of outdoor socio-emotional skills is supported by a broad environment, which puts you back in contact with yourself, supports social relations and offers countless ideas for communicating, collaborating and decision-making.

This focus provides two simple examples of how to support outdoor socio-emotional learning. Numerous other useful activities that can be structured outdoors can be found in various texts[9].

[7] https://casel.org/

[8] https://casel.org/fundamentals-of-sel/what-does-the-research-say/

[9] Vopel K.W., *Bambini senza stress (Children without stress)* Editrice Elledici - Loss S., Vittori R. *99 e più giochi cooperativi* Notes Edizioni - Varvelli L. e varvelli N., *Il primo manuale dei giochi di gruppo (First manual of group games)* Editrice la Scuola.

Annotations

PHOTO GALLERY: SOCIAL AND EMOTIONAL SKILLS

Italia - IO Bobbio Primaria Travo
ll nodo umano

Italia - IO Bobbio Secondaria Travo
Entrare in contatto con se stessi

Italia - IO Bobbio Secondaria Travo
Entrare in contatto con se stessi

Teaching activity

The human knot

Country	School	Location
Italy	Travo Primary School	Travo (Piacenza)

Teacher	Subjects involved	Target age
Vittoria Volterrani	Native language	8 - 14

Outdoor spaces

Any outdoor environment: schoolyard, lawn, large space.

Activity time

1 hour.

Materials needed

Laminated cards with a description of the *Collaborative* role*: do everything you can to resolve the situation and achieve the goal*

Neutral: do not take the initiative and, if you feel like it, do what they tell you

Oppositional: do nothing to resolve the situation and, in fact, do not respond to requests

Methods and techniques

TPS Think Pair Share. We work to promote the understanding of how collaboration affects a group and we do it through personal experience, contrast and evidence.

Skills and competences

EU Competences	WEF - 21st Century Skills	Casel SEL Framework
Functional literacy competence	Critical thinking and problem solving	Self-management
Personal and social competences and the ability to learn how to learn	Creativity	Social awareness
	Collaboration	Relational skills
	Communication	
	Adaptability	
	Persistence and determination	

ICT integration

None.

Monitoring

Direct observation.

Evaluation

Centred on the level of understanding and focused on the methods and feedback that emerged.

Description of the activity

1 **REFLECTION** – Sitting in a circle in an open space, the teacher asks: *What does COLLABORATING mean?* He/she asks the students to think about it for a minute while walking silently in random order. He/she invites the students to split up into pairs, sharing what they thought with the closest classmate. The student with the lightest sweater speaks for 30 seconds, while the other listens. Then they swap over. The teacher asks 3 or 4 volunteer pairs to share what emerged with the whole group. He/she invites the students to start walking silently again while he/she asks the second question: *What makes group collaboration difficult?* The second sharing starts in *Think Pair Share*, this time starting with the student with the shortest hair.

PEER-TO-PEER

LEVEL PLAYING FIELD

2 EXPLANATION – The teacher invites the students to sit in a circle and explains that, during the activity, not everyone will have the same role. He/she then distributes the cards, previously prepared with the roles: COLLABORATIVE - NEUTRAL - OPPOSITIONAL. He/she tells the students to keep the card a secret, to put it in their pocket and to behave according to the description of the assigned role.

FRONTAL LESSON

LEVEL PLAYING FIELD

3 IMPLEMENTATION – The teacher invites the students to stand up, make an orderly and close circle, stretch their arms out towards the centre and firmly take the hands of 2 other classmates, making sure that they are not the ones on their right and left. This creates a large human knot that must be untied in the next 7 minutes, without ever letting go of the hands being held and based on the roles assigned to each student.

COLLABORATING IN A SMALL GROUP

LEVEL PLAYING FIELD

4 IMPLEMENTATION – The students assigned the COLLABORATIVE role begin to act by trying to find solutions and suggesting useful movements to their classmates in order to untie the knot. The students propose, act or do not act, based on the role assigned to them.

COLLABORATING IN

LEVEL PLAYING FIELD

5 SHARING – After the 7 minutes have passed, the human knot is unlikely to have been untied. The teacher stops the activity, because time is up, and asks the students to sit in a circle. He/she asks just one open question: What prevented you from untying the knot? The teacher listens to a few answers and then informs everyone that there will be a new attempt, but that everyone will have the collaborative role in this session and will have to do their best at untying the human knot in the same 7 minutes.

DISCUSSION

LEVEL PLAYING FIELD

6 IMPLEMENTATION – The teacher invites everyone to stand up, form a close circle and tie themselves in the same way as before. He/she starts the timer. Before the 7 minutes are up, the human knot will undoubtedly have been untied and a single circle or 2/3 circles will have been created based on how the students tied themselves. *NB: if you have a group of more than 15 students, it's best to create 2 human knots from the beginning.*

COLLABORATING IN A SMALL GROUP

LEVEL PLAYING FIELD

7 METACOGNITIVE REVIEW – The teacher celebrates the success and asks everyone to sit in a circle again. He/she asks a couple of open questions: *What allowed you to untie the knot?* and *What did you learn from this activity?* He/she listens to a few answers.

DISCUSSION

LEVEL PLAYING FIELD

Teaching activity

Getting in touch with yourself

Country	School	Location
Italy	Travo Primary School	Travo (Piacenza)

Teacher	Subjects involved	Target age
Vittoria Volterrani	Native language	4 - 14

Outdoor spaces

For this activity you need a lawn or any quiet outdoor environment, preferably in close contact with nature.

Activity time

1 hour.

Materials needed

Cushion or rubber mat, if deemed necessary

White sheets of paper and markers

Methods and techniques

Each student works individually on him/herself. There is sharing only at the end, which is on a voluntary basis.

Skills and competences

EU Competences	WEF - 21st Century Skills	Casel SEL Framework
Personal and social competences and the ability to learn how to learn	Social and cultural awareness	Self-awareness Self-management

ICT integration

None.

Monitoring

Direct observation.

Evaluation

Centred on the level of understanding and focused on the methods and feedback that emerged.

Description of the activity

1 **PREPARATION AND IMPLEMENTATION** - Teacher and students are sitting in a circle on a lawn. The teacher gives each child a piece of paper measuring about 15 x 10 cm and asks them to think of 3 symbols to represent themselves. They can draw something that is very important to them, a character trait, a passion... anything they

FRONTAL LESSON

similar to this one, begins: *Find a comfortable position, close your eyes and keep them closed for the entire duration of the activity; focus on your breathing and feel the air entering and exiting your nose (30"). Maintain regular breathing. Now*

feel represents themselves. He/she gives the students some time to think in silence, while he/she passes by with a jar of markers, asking each student to choose one. After a minute, they are asked to choose 3 areas from the various ones they silently thought of and turn them into 3 quick graphic symbols.

NATURAL OUTDOOR SPACE

2 SHARING – After another minute dedicated to the drawing (which must be extremely simple), and after making sure everyone is ready, the teacher asks them to get up, walk and, every time they meet someone, clearly explain the 3 aspects of themselves they have illustrated. They will talk about themselves and listen to the other student through the 3 symbols. At the end of each sharing, the students start walking again and they meet and have an exchange with a new partner. After 4 exchanges, they autonomously go back and sit in the circle.

PEER-TO-PEER

NATURAL OUTDOOR SPACE

3 SHARING – Once everyone is back in the circle and silence is restored, the teacher asks the students a couple of questions: How did you identify the 3 aspects you drew? What new things did you learn about your classmates? He/she listens to 3 or 4 answers for each question. Lastly, the teacher informs the students that they will soon be doing a body awareness activity. He/she makes them think about the meaning of the terms and asks them to stand in no particular order, well separated from each other but all in one area that must not be too big because they will need to follow his/her voice.

DISCUSSION

NATURAL OUTDOOR SPACE

4 **EXPLANATION** – After checking that the students' positions are suitable, the teacher finds a central point, in front of everyone, and asks them to find a position, sitting or lying on their back, to maintain for the next 20 minutes.

FRONTAL LESSON

NATURAL OUTDOOR SPACE

5 **READING A TEXT** – Then the slow and steady reading of a text, *focus on your feet, trying to perceive them, without the need to move them. They support you and are important. Stay focused on the perception of your feet for a while (30"). Now move your attention to your knees and try to perceive them, without the need to move them. They allow you to bend and jump. Stay focused on the perception of your knees for a while (30"). Now continue towards your thighs and try to perceive them, without the need to move them. The strength of your thighs allows you to run. Stay focused on the perception of your thighs for a while (30").* We continue in the same way, moving upwards, following this sequence: belly (it contains organs), chest (where the heart is located), hands (to touch, handle, caress), arms (to lift and hug), head (where the brain is located and controls your entire body), face (which makes you unique and recognisable). 30/40 seconds are dedicated to each part of the body, ending where you started, at the nose, letting them focus for another 30/40 seconds on breathing, on the air that enters and exits the nose, and then telling them to open their eyes again as soon as they feel ready to do so.

NATURAL OUTDOOR SPACE

6 REFLECTION – The teacher leaves the students in peace for a couple of minutes and then calls them back into a circle. At this point, he/she can ask for voluntary feedback about how they felt, what difficulties they encountered, what pleasant sensations they felt, or he/she can ask the students to turn the sensations they felt into a drawing or writing (in this case, you need to have the tools ready: colouring materials, clipboards, pencils, sheets of paper)..

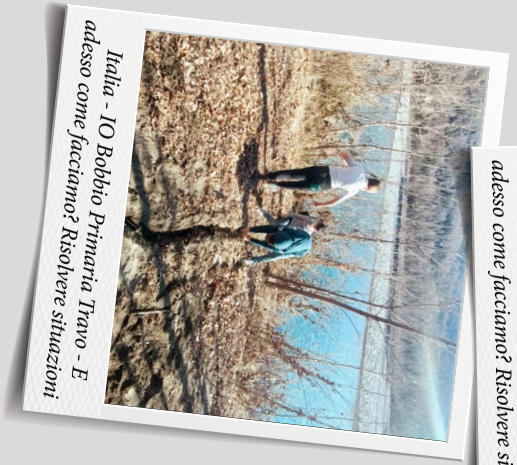
DISCUSSION

NATURAL OUTDOOR SPACE

3.3 Focus on critical thinking, creative thinking and problem solving skills

Skills that are fundamental for the 21st century must enter the daily process of teaching activities proposed by every teacher and be integrated into normal subject-related activities. This requires pedagogical awareness and an educational intention that takes real and increasingly pressing needs into account. The outdoor environment, whether natural or anthropic, offers multiple ideas for implementing disciplines thanks to teaching strategies useful for developing the skills being focused on. For example, it is easy to structure science or mathematics lessons that support strengthening critical thinking and problem-solving skills, or Italian, art, physical education or music lessons that increase students' creativity.

Annotations



Italia - IO Bobbio Primaria Travo - E adesso come facciamo? Risolvere situazioni

Italia - IO Bobbio Primaria Travo - E adesso come facciamo? Risolvere situazioni

Slovenia - Primary School Kobarid Selfie con materiali naturali

PHOTO GALLERY: CRITICAL THINKING, CREATIVE THINKING AND PROBLEM-SOLVING SKILLS

Teaching activity

Selfie with natural materials

Country
Slovenia

School
Primary School Kobarid

Location
Kobarid

Teacher
Aurora Calvet

Subjects involved
Art, native language, physical education, ICT, environment

Target age
7-13

Outdoor spaces

Park, schoolyard, woods, forest, garden, etc.

Activity time

2 hours including explanation, carrying out the activity and evaluation.

Materials needed

Various types of natural materials (the children look for the material themselves or bring it to school without telling them about the purpose).

ICT integration

Tablet o smartphone for using the camera.

Methods and techniques

Cooperative learning

Problem solving

Team building

Peer-to-peer

Skills and competences

EU Competences

Personal and social competences and the ability to learn how to learn

WEF - 21st Century Skills

Creativity

Communication

Collaboration

Initiative

Persistence and determination

Adaptability

Critical thinking and problem solving

Monitoring

With a tablet: direct observation and notes on a digital diary, photographs.

Evaluation

Evaluation of practical performance, the product, the level of collaboration and creativity and opinions expressed during the metacognitive review process.

Description of the activity

1 **PREPARATION** – The teacher organises the students into random groups of 4/5. He/she introduces the activity, explaining that each group will create, while outdoors, an image of a classmate using natural materials only. Each one is free to choose the background (asphalt, grass, wood...) or take a selfie and then try to create it with natural materials.

FRONTAL LESSON

CLASSROOM

2 IMPLEMENTATION – The students take one tablet per group and a container and they go outdoors to search for the materials (in case they have not already brought them with them). At the end of the search, they identify the place where they want to take the selfies and turn them into natural images. The students will keep the classmate being portrayed secret because the teacher will also have to guess which student it is. The teacher observes, takes photographs and encourages. He/she lets the students work on their own throughout the creative process.

COLLABORATING IN A SMALL GROUP

NATURAL OUTDOOR SPACE

3 OBSERVATION – When all the groups have finished, the teacher asks them to wander individually around the images created on the ground with natural materials. For the moment, the teacher asks them not to comment. Each child must carefully observe the results of all the groups.

INDEPENDENT STUDY

NATURAL OUTDOOR SPACE

4 PRESENTATION – Each group presents its work and the others comment, highlighting the good ideas (e.g. use of stones for the eyes or use of fibres for the hair). The teacher and the students try to identify who has been portrayed.

STUDENT PRESENTATION

NATURAL OUTDOOR SPACE

5 **EVALUATION** – The teacher and the students evaluate each image and compare it to the original (photo from a tablet).

DISCUSSION

NATURAL OUTDOOR SPACE

6 **SHARING** – At the end, the teacher asks each student to stand next to their favourite image (not the one they made themselves) and asks them to explain their choice.

INDEPENDENT STUDY

NATURAL OUTDOOR SPACE

7 METACOGNITIVE REVIEW – Lastly, the teacher asks everyone to sit in a circle and starts the metacognitive review process through some open-ended questions: *How did you feel during the activity? What did you enjoy doing the most? What was the most difficult part?*

DISCUSSION

NATURAL OUTDOOR SPACE

Teaching activity

What do we do now? Resolving problematic situations

Country
Italy

School
Travo Primary School

Location
Travo (Piacenza)

Teacher
Vittoria Volterrani

Subjects involved
Technology and Italian

Target age
9 - 14

Outdoor spaces

Any natural environment that has natural materials to use. In this case: the pebbly Trebbia river bank at a distance of 5 minutes on foot.

Activity time

1 hour for the outdoor activity

3 additional hours if a decision is made to encourage the digital documentation of the activity

Materials needed

Natural material found on site like: stones, branches, sand, etc.

Tablet for photographic documentation, which is the teacher's responsibility

ICT integration

Later on, as documentation of the process and of the deep metacognitive review.

Methods and techniques

Work takes place in peer to peer in groups of 3 or in collaborative mode

Problem solving

Possible variant activity in Cooperative Learning

Skills and competences

EU Competences	WEF - 21st Century Skills
Entrepreneurial competence	Scientific literacy
Functional literacy competence	Functional literacy competence
	Critical thinking and problem solving
	Creativity
	Collaboration
	Communication
	Curiosity
	Adaptability
	Persistence and determination
	Leadership

Description of the activity

1 **PRESENTATION** – The teacher accompanies the students to the natural site and creates random groups of 3 students. He/she illustrates the activity, explaining that it is a challenge between collaborative groups. He/she specifies that the groups will have little time to create an object using the natural materials available on site only. He/she visually delimits the work area.

FRONTAL LESSON

NATURAL OUTDOOR SPACE

2 ASSIGNING THE TASK – The teacher communicates the task in a simple way, repeating it no more than twice. Each group has 15 minutes to create one of the following objects: the highest possible stone tower, a hut, a dam, a crossbow, a self-supporting bow, etc. It is important that the teacher chooses an object per session that is the same for everyone. Given the simple instructions, he/she does not provide further instructions and avoids answering students' questions.

FRONTAL LESSON

NATURAL OUTDOOR SPACE

3 IMPLEMENTATION – The students organise themselves, try to verbally form a plan, start to collect the materials and create the required object.

EXPERIENCE

NATURAL OUTDOOR SPACE

4 OBSERVATION – While the groups work in total autonomy, the teacher monitors them, takes photos and notes down the progress of the work in a notebook. He/she notifies them of the time as it passes. He/she does NOT answer any questions, in order to encourage the independent problem solving process within the group. At the end of the given time he/she suddenly stops the work and calls the groups to him/herself, with no negotiation.

FRONTAL LESSON

NATURAL OUTDOOR SPACE

5 SHARING AND ANNOUNCEMENT – With the groups, the teacher moves around among the objects and asks each team to illustrate their object and the strategy used. He/she receives the comments and questions that emerge from the groups. He/she announces the winning group.

EXPERIENCE

NATURAL OUTDOOR SPACE

6 METACOGNITIVE REVIEW - The teacher starts the metacognitive review moment, asking the students to sit in a circle. He/she asks 5 open questions: How did you organise yourselves? What was the easiest thing for you? What was most difficult thing for you? How did you overcome the difficulty? What did you learn? When the work is over, the teacher tells them that the groups will have at least one other opportunity, a few days later, to make the same object again and asks them to think about the best possible strategies to implement on the second attempt.

DISCUSSION

NATURAL OUTDOOR SPACE

Possible developments - Digital documentation of the process, useful for consolidating the deep metacognitive review: once back inside the school, the groups can work on a digital presentation, to use for putting all the steps useful for solving the problem into words, using the photographic material produced by the teacher. The work will then be presented to the class.

Possible variations – Organisation into cooperative groups in which everyone is obviously a member of the group and can therefore propose ideas for achieving solutions, but with assigned roles: leader (organises the work and coordinates), storekeeper (launches the search for materials and decides which to use and which not to use), timekeeper (equipped with a timer and notifies them as time passes).

3.4 Focus on subject-related transversality

Real life is never divided into squares or compartments based on different subjects and it does not offer the possibility of being evaluated in one school subject or another. Instead, it presents us with a complexity that leads to knowledge and know-how being intertwined in order to solve problems, achieve goals, deal with situations, live immersed in a society with multiple aspects and different backgrounds and perceptions.

On the contrary, school has tended for too long to compartmentalise, simplify and limit activities to the performing of simple and one-directional tasks. It should prepare students for life and promote complex learning situations that integrate various academic aspects in concrete situations to stimulate the student's ability to navigate through a changing reality.

Planning experiences that involve subject-related transversality, in a tangible relationship with real people by tackling authentic situations, to help solve problems and create something or improve your own community, requires leaving the classroom and immersing yourself in authenticity.

For example, this is the case with Project Based Learning or Service Learning activities, which are able to promote academic learning and life skills thanks to group-based teaching closely and constantly linked to reality, producing significant and lasting results on multiple fronts.

Annotations

PHOTO GALLERY: SUBJECT-RELATED TRANSVERSALITY

Spagna: CP Monte San Julián - Navarra
Lavori della comunità: pompiere per un giorno

Bulgaria - OU Hristo Botev Varna
Via Pontica: alla scoperta della biodiversità

Spagna - Ceip Guliena
A scuola camminando

Spagna - Ceip Guliena
A scuola camminando

Islanda - Hlíðarskóli - Camminare lungo l'oceano e scoprire un mondo

Teaching activity

Community jobs: firefighter for a day

Country
Spain

School
Escola Monte San Julián

Location
Tudela (Navarre)

Teacher
Raquel Rodríguez Cortés

Subjects involved
Autonomy, community work, second language, motor-manipulative skills, art, mathematics and engineering

Target age
4-5

Outdoor spaces

Schoolyard. Santa Quiteria Park, 10 minutes on foot from the school. Fire station 20 minutes walk from the school.

Activity time

2 sessions per week for 3 weeks.

Materials needed

- Cardboard
- Tubes
- Bottles of tempera paint
- Pastels
- Natural resources (sticks, branches, etc.)
- Rubbish bags

ICT integration

Before: watch a video about firefighters using an interactive whiteboard.
During: create the design of a building using Jamboard in groups.
Software: Jamboard or similar.

Methods and techniques

- Team building
- Collaborative work in groups

Skills and competences

EU Competences (2018)

Mathematical competence and scientific, technological and engineering competences

WEF - 21st Century Skills

- Creativity
- Collaboration
- Communication
- Critical thinking and problem solving

Monitoring

Journal and diary with photo.

Evaluation

Practical performance.

Description of the activity

1 **VIEWING the VIDEO** – The students watch the video: the story of a firefighter.

FRONTAL LESSON

CLASSROOM

2 **COLLECTING MATERIALS** – The teacher leads the children to the Santa Quiteria Park to collect natural resources: sticks, stones, branches, etc.; everything that will be needed to construct the buildings.

EXPERIENCE

PUBLIC PARK

3 **CREATING THE UNIFORM** – In groups, the students help create the firefighter's uniform.

COLLABORATING IN A SMALL GROUP

CLASSROOM

4 **CREATING THE VILLAGE** – In groups, the students colour a large background and create a village, using the natural materials found in the park.

COLLABORATING IN A SMALL GROUP

SCHOOLYARD

5 **DIGITAL DESIGN** – The teacher leads the students in the digital design of the fire station, using a Jamboard and calling the students to the interactive whiteboard one at a time.

INDEPENDENT STUDY

CLASSROOM

6 **CREATING THE FIRE STATION** – In groups, they create the fire station and add tongues of fire to the village using cardboard.

COLLABORATING IN A SMALL GROUP

SCHOOLYARD

7 **EXTINGUISHING THE FIRE** – In groups, they put out the fire using small bottles of water that will remove the flames placed there.

COLLABORATING IN A SMALL GROUP

SCHOOLYARD

8 **VISIT TO THE LOCAL FIRE STATION** – Students and teacher visit the local fire station.

EXPERIENCE

FIRE STATION

Possible developments – Focus in English in the lexical area linked to what was addressed with games with recreational activities.

Teaching activity

Via Pontica: discovering biodiversity

Country
Bulgaria

School
OU Hristo Botev

Location
Varna

Teacher
Marina Tomova

Subjects involved
Science, ICT, virtual reality

Target age
12 - 13

Outdoor spaces

The students visit one of the famous nearby wetlands, Lake Pomorie, which is part of the Via Pontica, the second largest bird migration route, and is located about 15 km from the school area.

Activity time

2 to 3 hours *(the activity is part of a Project Based Learning activity lasting 3-4 weeks in total).*

Materials needed

Smartphone with the Arduino Science Journal application installed

Laptops (Chromebook)

360-degree video camera

ICT integration

The students share their work, as final products, receive their assignments and work collaboratively in Google Classroom. They create a collaborative website (in groups), a VR tour with the Thinglink web tool and a collaborative project on Google Earth. While outdoors, they record their notes, take photos and use sensors to gather data in the Arduino Science Journal app.

Skills and competences

EU Competences	WEF - 21st Century Skills
Personal and social competences and the ability to learn how to learn	Critical thinking and problem solving
Digital competence	Collaboration
Mathematical competence and scientific, technological and engineering competences	Creativity
	Curiosity
	Initiative

Methods and techniques

Project Based Learning

Collaborative Learning

Monitoring

Journals

Diary

Evaluation

Evaluation of the process, the practical performance, the product and the academic results.

Description of the activity

1

PRESENTATION – The teacher introduces the topic of the project, outlines the students' tasks (researching the flora and fauna of the place to be visited) and provides materials for the research. He/she divides the students into groups with different tasks.

FRONTAL LESSON

SCIENCE CLASSROOM

2

IMPLEMENTATION – Visit to Lake Pomorie: the students explore the area and get to know it. Based on their group task, they gather data from the surrounding area using the Arduino Science Journal application. Their findings are documented and different types of data are recorded: recordings of the pitch of bird vocalisations (Hz), environmental light and sound intensity (dB). Students take high quality photos using the application, compare the data collected and take 360-degree photos of the area (to be used in the VR tour).

EXPERIENCE

NATURAL OUTDOOR SPACE, WETLAND.

3

AT HOME – Students export the data collected by the application and share it in their Learning Management System (LMS).

INDEPENDENT STUDY

AT HOME

4

SHARING – During the science lessons, students present their summarised data and they discuss and reflect upon it.

STUDENT PRESENTATION

SCIENCE CLASSROOM

5

CREATING THE FINAL PRODUCT – Students brainstorm the tool they will use for their final product in the ICT lessons. In groups, they create three different final products: a website presenting the flora and fauna of the area and the data from the Arduino app (enhanced with images and graphs); a Google Earth VR tour of the Via Pontica with information sheets on the main stages of bird migration. The images taken by students during the visit to the lake were also uploaded; a Thinglink VR tour of Pomorie Lake with 360-degree images taken during the visit.

COLLABORATING IN A SMALL GROUP

IT CLASSROOM

Note – The tasks are completed in groups, using shared online documents. The teacher mediates the students' progress and provides feedback. The results of their research will then be presented before their classmates and teachers (for example, the length of Via Pontica, the type of birds that use the route, the type of wildlife common to the wetland visited, the endangered species and the characteristics of the birds and plants in the area). At home, the students collaborate virtually in their LMS (Learning Management

Teaching activity

Walking to school

Country
Spain

School
Ceip Guliena

Location
Guillena

Teachers
Alma Gil Navas
Adrián Vidal Vecino

Subjects involved
Mathematics, native language, science, physical education

Target age
10 - 12

Outdoor spaces

Water Route (1.5 km) and areas around the school within a radius of 2 km.

Activity time

2 weeks.

Materials needed

Newspaper articles
Maps of places
Water Route map
Compass

ICT integration

The necessary digital tools will be used to search for information. Similarly, after having investigated and written the reports, digital tools will be used to raise the population's awareness about the importance of walking to school.

Skills and competences

EU Competences

Personal and social competences and the ability to learn how to learn
Competence in the subject of citizenship

WEF - 21st Century Skills

Critical thinking and problem solving
Communication
Collaboration

Methods and techniques

We will mainly use the Project Based Learning method in the Service Learning approach.
Students plan solutions to respond to a real problem: pollution caused by excessive use of cars to get to school. The small town context makes it possible to create a safe route to walk along.

Monitoring

Journals
Diary

Evaluation

Evaluation of practical performance, development of the path and the socio-emotional results.

Description of the activity

1 **PRESENTATION** – The teacher opens up the problem by proposing the reading of a digital newspaper article in which the problem of excessive use of individual transport is observed. Students create a survey for families on use of the car to get to school. They create a table with the data obtained and analyse the graphs.

COLLABORATING IN A SMALL GROUP

SCIENCE CLASSROOM

2 IMPLEMENTATION – In class, students search for possible routes in the area for carrying out a hiking activity in order to verify the benefits of walking to school. They investigate the benefits of hiking or Nordic walking. With the support of the *Los Hijos del Viento* association, we set off on a hiking and orienteering activity along the *Ruta del agua Guillena.*

EXPERIENCE

CLASSROOM AND THE WATER ROUTE

3 **PRESENTATION** – After carrying out the study on the importance of sport for our health and the benefits of walking and after summarising it in a presentation, the groups present the results to the rest of their classmates.

STUDENT PRESENTATION

CLASSROOM

4 **IMPLEMENTATION** – The students, organised into groups, study the map of the location and carry out orientation and geometry activities. Using Google Earth or Google My Maps, they calculate the different distances between the students' homes and the school. On the shared map, each group indicates the different routes to map out.

DISCUSSION

CLASSROOM

5 CREATION OF THE FINAL PRODUCT – As a group, the students prepare a document containing the advantages of walking to school. Using the web tool Canva, they prepare posters to send to the educational community through social networks or in paper format, showing the advantages of doing sport and moving to get to school. On each poster, they include the map with the recommended routes.

COLLABORATING IN A SMALL GROUP

IT CLASSROOM

6 COMMUNITY INVOLVEMENT – The teacher organises the tasks between the groups of students, based on their ideas. The different groups will have to: publish the posters created through the school social networks and launch the start of a new routine so that the whole community can walk to school starting from a set day; inform the media of the initiative; contact the parents' association so that they help ensure that the initiative and the proposed routes function well; ask for the collaboration of the Municipal government so that the initiative can be implemented safely; support the initiative so that it is included in the Educational Plans and becomes part of the school's systemic proposals.

EXPERIENCE

CLASSROOM AND VILLAGE

Teaching activity

Walking by the ocean and discovering a world

Country
Iceland

School
Hlíðarskóli

Location
5 km from Akureyri

Teachers
Sigurður Freyr Sigurðarson

Subjects involved
Mathematics, science, social studies, native language, English, physical education, geography

Target age
9 - 15

Outdoor spaces

The open sea is 200 metres from the school (3 minutes on foot) and the beach stretches for about 2 km. There is also a large open area around the school, where horses run free just 1 minute's walk away.

Activity time

3 or 4 days, 1 or 2 hours per day.

Materials needed

None.

ICT integration

- Tablet
- Digital photos
- Digital maps
- Weather forecast

Methods and techniques

- Collaborative learning
- Problem solving
- Autonomous and self-managed work

Skills and competences

EU Competences

- Mathematical competence and scientific, technological and engineering competences
- Functional literacy competence
- Personal and social competences and the ability to learn how to learn

WEF - 21st Century Skills

- Critical thinking and problem solving

Monitoring

Grids.

Evaluation

Evaluation of practical performance, academic results, accuracy and path development.

Description of the activity

1 **PRESENTATATION AND GROUPS** – The teacher begins the activity by asking the students to predict what they might find while walking along the beach. The students suggest ideas and write them on the board. They group themselves according to the elements they have assumed they will find. Groups are then formed based on what the students would like to find: bone group, metal waste group, plastic waste group.


DISCUSSION

CLASSROOM

2 DISCUSSION – The teacher and the children, organised into groups, set off for the beach. Discussions and further predictions about what they will find are encouraged.


EXPERIENCE

STREET

3 **IMPLEMENTATION** – The teacher leaves the groups free to explore the shore and find elements for at least 30 minutes. Some students go south, others go north and some stay in the arrival area. The students can walk and collect lots of things, but, at the end, when everyone is back at the starting point, each group will have to decide on just one thing to take to school, while the groups will put the rest in the dustbins, where they will learn to separate plastic, paper, bones, metal and glass.


EXPERIENCE

BEACH

4 DISCUSSION – Back in class, or during the next lesson, the students take their objects and discuss them in groups, stimulated by a series of questions: *Where does it come from, how old is it? How long has it been in the sea or on the beach? How can we measure how big it was before? What kind of thing was it? Is it dangerous for life in the sea and why? By looking at a map and analysing the weather conditions and currents over the last few days, can we find out where it entered the sea and how far it went?* The children are encouraged to find a school near the place where they think the waste started to circulate in the sea, send an email to ask for information on this phenomenon and ask if they are aware of the pollution of the sea coming from their area. If a group focuses on fish remains, other possible stimulus questions are: *Based on the bones, what type of fish was it? What does it eat? Where does it live? How big does it get? Is it a fish we eat? How much does 1 kg of it cost in the shops? Can we find a picture of this fish on the tablet? Can we draw it?*


COLLABORATING IN A SMALL GROUP

CLASSROOM

CLASSROOM

5 **SHARING** – The groups tell the other groups about their discoveries. After each group has expressed what they discovered, a large group discussion takes place and, if someone does not agree with the conclusions that a group has reached, they all reason about the motivations and possible alternative results.


DISCUSSION

CLASSROOM

6 CREATING THE FINAL PRODUCT – The students return to their groups and, based on the discussion of their work, decide if and what they want to change in their results. They then begin to create a digital presentation based on their work and the discussion.


COLLABORATING IN A SMALL GROUP

CLASSROOM

7 PRESENTATION – Each group presents their work to the other classes. The community may also be invited.


STUDENT PRESENTATION

SCHOOL

3.5 Focus on digital integration

Digital technology now permeates every sphere of human life, but it still requires an education in how to use it that transforms users from passive to active, from consumers to creators and from unaware to aware.

Digital competence is an essential and emergency requirement, but… is that true also outdoors? No, not necessarily. There are different types of experience, but if digital technology can make the outdoor experience more meaningful or boost learning, then why not!

The ideal device to use outdoors is a tablet, possibly with its own connection and a good camera, useful for capturing significant ideas. The various apps available can increase the opportunities offered by the anthropic or natural environment in the immediate moment or later on in the classroom.

When necessary, the Internet connection can be simplified by purchasing simple portable routers that can guarantee a network for 10 or more devices. Also outdoors, it is advisable to share the device with a ratio of 1 to 2 or 1 to 3 in order to promote knowledge enhanced by the web, but shared and mediated by the students' different cognitive maps.

Annotations

Italia - IO Bobbio Secondaria Travo - Caccia digitale: orienteering, scoperte e conquiste

Italia - IO Bobbio Primaria Travo
Il mondo sotto una Lens

Italia - IO Bobbio Primaria Travo
Il mondo sotto una Lens

PHOTO GALLERY: DIGITAL INTEGRATION

Teaching activity

The world under a Lens

Country: **Italy**

School: **Travo Primary School**

Location: **Travo (Piacenza)**

Teacher: **Vittoria Volterrani**

Subjects involved: **Science, native language, art**

Target age: **8 - 14**

Outdoor spaces

Any natural environment that has a minimum of plant life and microfauna.
In this case: the pebbly Trebbia river bank at a distance of 5 minutes on foot.

Activity time

From one hour to 3/6 hours depending on how much you want to expand the activity.

Materials needed

- Clipboard
- Worksheets
- Pencil/eraser/colouring materials
- Device (smartphone o tablet)

ICT integration

Element recognition app for comparison, such as Google Lens.

Methods and techniques

Students work in peer-to-peer mode in pairs or collaboratively in a small group
Secondly, when delving deeper into the activity, the work can be done via shared writing in Drive or by continuing with individual writing activities.

Skills and competences

EU Competences

- Mathematical competence and scientific, technological and engineering competences
- Functional literacy competence
- Multilingual competence
- Digital competence
- Competence in cultural awareness and expression
- Personal and social competences and the ability to learn how to learn

WEF - 21st Century Skills

- Scientific literacy
- Digital literacy
- Language literacy
- Critical and creative thinking
- Collaboration and communication
- Curiosity
- Adaptability

Monitoring

- Grid
- Log

Evaluation

Evaluation of practical performance and of the product, the academic results, the working method and safety when exhibiting.

Description of the activity

1 **EXPLANATION** – The teacher organises the materials, making sure there is a device for every 3-4 students, and asks each student to have a clipboard, a pencil, an eraser and some crayons. He/she explains that the work will be done both digitally and analogically, in pairs/or small groups and then shows flashcard no. 1. He/she explains the flashcard and illustrates the activity: go to the river, identify interesting natural elements in the wild plant life or microfauna, discover them using the senses, search for information online and write the information on the flashcard.


FRONTAL LESSON

CLASSROOM

2 ORGANISATION – The students are put in pairs or small groups. The devices are distributed and possibly the roles of Researcher and Reader (interchangeable, everyone is also a Writer).


FRONTAL LESSON

CLASSROOM

3 **EXPERIENCE** – Everyone sets off for the chosen natural environment and after arrival at the outdoor space, the small groups place themselves in no particular order and decide which element to investigate.


EXPERIENCE

NATURAL OUTDOOR SPACE

4 **OBSERVATION** – They analyse the element with the 5 senses, discussing and collaborating, writing down what has emerged on the flashcard and drawing the element in the specific box.


COLLABORATING IN A SMALL GROUP

NATURAL OUTDOOR SPACE

5 **RESEARCH AND IN-DEPTH ANALYSIS** – They focus on the element with Google Lens or similar and then they extrapolate further essential scientific information and write it down. They repeat the operation for 1-3 other elements, depending on the time available.


PEER-TO-PEER

NATURAL OUTDOOR SPACE

6 METACOGNITIVE REVIEW – At the end of the given time, we gather in a circle in a large group and briefly discuss what has emerged again by observing and researching online.


DISCUSSION

Possible developments from year 4 (primary school)

Detailed informative text using flashcard no. 2, better if using a cloud and with shared writing in pairs.

Detailed reworked descriptive imaginative text using flashcard no. 3, better if with the use of a cloud and with individual writing.

INVENTASTORY (cooperative narrative text) in which the teacher provides the opening words and the group, sitting in a circle, invents the story unanimously and by association of ideas, while the teacher takes notes and rereads them gradually, to make sure the students keep to the story.

Small group narrative text using flashcard no. 4: the students collaborate in inventing a narrative text using natural elements discovered and the environments they discovered, enriching them with details and situations. It is better to work in the classroom, with one device per group, but with the shared document in the cloud, in order to be able to delve deeper at home, add ideas and correct them without haste, before the document is shared with the teacher. Alternatively, the printed worksheet can still guarantee cooperative work.

Ebook with the different text types created.

Artistic/scientific exhibition of the natural elements explored with objective and subjective graphic representation.

Presentation of the various works created, to the class/school/community.

NOTE: in order to view the flashcards, you need to refer to the digital version on the Small Schools website in the Notebooks section

Teaching activity

Digital hunting: orienteering, discoveries and conquests

Country: **Italy**

School: **Travo Primary School**

Location: **Travo (Piacenza)**

Teacher: **Vittoria Volterrani**

Subjects involved: **Science, native language, art, foreign language**

Target age: **8 - 18**

Outdoor spaces

Village and any natural environment that has a minimum amount of plant life and microfauna
From 2 to 10 minutes on foot.

Activity time

2 hours.

Materials needed

Device (smartphone or tablet) with an Internet connection

A paper map of the area where the activity will take place

ICT integration

App for digital treasure hunt.
Software: Actionbound or similar.

Methods and techniques

Students work in peer-to-peer mode in pairs or collaboratively in a small group

Skills and competences

EU Competences	WEF - 21st Century Skills
Scientific competences	Scientific literacy
Native language competence	Digital literacy
Multilingual competence	Language literacy
Digital competence	Critical and creative thinking
Expressive competence and cultural awareness	Collaboration and communication
Learning how to learn	Curiosity
	Adaptability

Monitoring

Log

Photographic documentation

Evaluation

Evaluation of practical performance, product, academic results and work method.

Description of the activity

1 **PREPARATION** – The teacher prepares the digital hunt on the ActionBound app, entering all the questions that he/she deems necessary for exercising the subject-related and cross-curricular skills in which he/she wants the children to be trained.

FRONTAL LESSON

CLASSROOM

2 ORGANISATION – He/she organises the class into groups of 3 - 4 and gives each group a copy of the paper map and a device (tablet or smartphone). He/she asks the students to install the ActionBound app.

FRONTAL LESSON

CLASSROOM

3 EXPLANATION – He/she shows the paper, relief or satellite map depending on the location and age. The map can be downloaded from Google Maps after entering the points of interest that the students will have to locate. Alternatively, the map can also be digital within the app. Explain that they will need to work both digitally and analogically to resolve all the requests that can have different formats: Explanatory text, Mission (something creative that they will have to produce and photograph, Point to identify based on indications or GPS coordinates in order to be able to continue, Quiz, QR code.

4 DEVELOPMENT – The students go out, possibly into a natural space, or into an anthropic space (depending on the subject they are working on). The teacher shares the Hunt with the students via a link or via a QR code and the groups start to follow the stages of the hunt that will be shown to the groups in a different order.

EXPERIENCE

NATURAL OUTDOOR SPACE

5 COLLABORATIVE EXPERIENCE – After reaching the various stages established by the teacher, in order to continue, the groups need to answer some questions, complete missions, take photos, etc., which are shared with the teacher in real time. The hunt ends when all the groups have completed the various tasks proposed.

COLLABORATING IN A SMALL GROUP

NATURAL OUTDOOR SPACE

6 EVALUATION – Back in class, thanks to the digital board, the results will be shown, the answers discussed and the winning group will be declared.

DISCUSSION

CLASSROOM

7 METACOGNITIVE REVIEW – The groups are led to reflect on what they have learned and how they did it. The teacher asks each group to summarise the learning process with a GROUP SCULPTURE, that is all the group members together create a human sculpture, either static or dynamic, that represents the way the work was carried out during the activity.

COLLABORATING IN A SMALL GROUP

CLASSROOM

PICCOLE SCUOLE
TRAME SOCIALI IN RETE

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