RELEARN PLASTIC: INNOVATIVE METHODOLOGIES IN SCHOOLS FOR STRENGHTENING THE AWARENESS AND ACTIVE CITIZENSHIP ABOUT PLASTIC CONSUMPTION

LEARNING GUIDE

HANDBOOK FOR HIGH SCHOOL TEACHER –

Intellectual Output 2 – Plastic Awareness through Art methodologies

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

RELEARN PLASTIC: INNOVATIVE METHODOLOGIES IN SCHOOLS FOR STRENGHTENING THE AWARENESS AND ACTIVE CITIZENSHIP ABOUT PLASTIC CONSUMPTION

This document will represent the result of the Intellectual Output number 2 in the ERASMUS+ Project n°: 2020-1-SI01-KA201-075895 **„Innovative learning methodologies in schools for strengthening the awareness and active citizenship about plastics consumption - ReLearn Plastics“.**

This work has been coordinated by Youth club of municipality of Stara Pazova - OKOSP and was done together in collaboration with all the other partners of ReLearn Plastics: University of Maribor, Biotehniški center Naklo, E – gimnazija, Associacio Cultural CRESOL, IES Cid Campeador, CSI Centre for Social Innovation LTD and P.G.M.S. (Private Grammar & Modern School).

The topic of plastic overuse and environmental impact is one of the most pressing issues of today. As much as it is talked about, it is evident that high school students still lack awareness of the problem we are facing, so they need this Intellectual output as it has been concluded in the needs analysis withe the schools in the partnership.

This intellectual output will be a guide for high school teachers. The material will be designed to be a guide for teachers. It will represent a synthesis of art and science.
This output will be addressed toteachers, increasing the knowledge and competences to use new ways of education and learning with students to increase the motivation and awareness about environmental andsocial challenges. Thanks to this compound, creativity will be awakened both for teachers and students.
The topic of plastic overuse and environmental impact is one of the most pressing issues of today. As much as it is talked about, it is evident that high school students still lack awareness of the problem we are facing, so they need this intellectual output as it has been concluded in the need's analysis withe the schools in the partnership.

Project partners:

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Table of Contents

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Module 1 - Learning through Art

The first module deals with the general importance of art in learning. One of the most important aims of education is to develop more knowledge, skill, and ability in comparison with standard school programme. Students of the 21st century are very different from the students of the past.

The modern way of learning includes art which teaches us to approach specific topic in a more personal/individual level and achieve perfection through practice. This type of learning has a positive effect on the development of social and emotional intelligence, improves motor skills and contributes to increased self-confidence.

Also, art-based lessons are studio projects that explore particular topics with hands-on, creative activities and active discussions.

Art learning and experiences, to varying degrees, reorganize neural pathways, or the way the brain functions. Extended or deep learning in the arts reinforces these developments.

How the art is combined in the curriculum and mainly: Why art lessons are important for students (P. G. M. S., E-gimnazija, IES CID Campeador, BC Naklo)?

Art is an essential lesson for students of all ages.

Introduction[1]

For some time now, scientific research has also discovered that participating in art, music, movement, and storytelling activities not only develops language, mathematics, science, and social skills, but also stimulates brain growth. In fact, research shows that these synapses grow stronger through active participation in the arts. These fundamental activities, especially at an early age, can actually create new neural pathways and fortify those that are already present, helping the young brain develop to its fullest capacity.

As human beings, we consist of a continuous blend of emotional and rational mind. In order to create a balanced experience of life, these two parts should have to work in harmony. Creativity can be the key to make emotionality and rationality communicate in a healthy way then. In fact, through improvisation and experimentation with the arts in a non-judgmental environment, youngsters can learn more in depth about themselves and their inner world. Moreover, art education may help connect students with their own culture as well as with the wider world.

[1] CRESOL

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

It's important to encourage young people to express their feelings using their creativity, from talking about their art with words and stories in order to promote language development to using art materials in order to observe, experiment, and problem-solve. Open-ended art activities in which the students must make choices can help foster the development of their scientific thinking skills.

Furthermore, it's crucial for the students to share experiences through class discussions to shape social and emotional interaction skills.

There are a lot of advantages in presenting technical and scientific issues with the help of the arts: working in the arts helps learners to develop creative language skills, social skills, problem-solving skills, decision-making, risk-taking, and inventiveness. Arts experiences boost critical thinking, teaching students to take the time to be more careful and thorough in how they observe the world. Moreover, art can be a vehicle for spreading class participation: teaching through the arts can present difficult concepts visually, facilitating the learners to understand. At the same time, integrating art with other disciplines can reach students who might not otherwise be engaged in classwork.

Learning through arts is also useful for strengthening creativity, fluency, originality, elaboration, and resistance to closure. It creates or reinforces the abilities to express thoughts and ideas, exercise their imaginations and take risks in learning, and also fosters cooperation and teamwork. The extended effects of this kind of learning can be seen in other disciplines. In fact, this empowerment can positively affect abilities such as creative and flexible thinking, imagining ideas and facing problems from different perspectives, taking imaginative leaps, and layering one thought upon another as part of a process of problem solving.

Pure art

In our school[2] art lesson is mandatory between ages 12-14. Through their art lesson projects, students are introduced to different forms and types of art, learning about perspective, surrealism, impressionism, cubism and various others while learning art using pencils pens oil pastels as well as mixed media.

Older students choosing to follow art subject, through the lesson they develop their artistic skills in drawing and painting. Through active engagement in the creative process of art, the students develop skills in critical thinking and organization, as well as the confidence to take risks and learn from experience while exploring different concepts, materials, and techniques. Students build a coursework by doing small projects frequently.

Students that continue with their art subject for A-level they work creatively within the realm of fine art media; through the disciplines of painting and drawing, printmaking, sculpture, lens-based image making. Students follow a dynamic structure that focuses on skill development, whilst at the same time encouraging the expression of individual creativity, analytical thinking, critical and contextual thinking and research. Writing about art is an essential part of the course.

[2] P.G.M.S.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Students are required to create a sustained piece of critical and contextual analysis, showing an awareness of intention and context. Students build a coursework by doing small projects frequently in which they get graded.

ART through STEM

In addition to this, STEM students are required to use their art skills and imagination for the construction and execution of their STEM projects which are described further down in Module 2.

Art in all of its possible forms

Expanding art to all of its possible forms, music and dance are also 2 lessons which are offered to students; music as a mandatory lesson till the age of 14 and dance as an extra curriculum program. Through the combination of these 2 lessons, music and dance, students end up participating in an annual performance for which are preparing for at least 3-4 months, where they give all of their selves and show their talents in an extra ordinary performance where students teachers parents and the general public are invited to attend.

Why art lessons are important for students?

Art lessons help students to develop creative problem-solving skills. Teaching through the arts can present difficult concepts visually, making them easier to comprehend. It helps students with the development of social skills, decision-making, risk-taking, and creativity.

Art teaches students about line, shape/form, space, value, colour, and texture – to create a composition as a whole. All these techniques are also necessary for presentations (visual, digital) of academic work. Integrating art with other disciplines reaches students who might not otherwise be engaged in classwork. It enhances critical thinking, teaching students to take the time to be more wary and careful in how they observe the world.

Adolescence or puberty is a period in which there are significant quantitative and qualitative changes in cognitive abilities, logical thinking, information processing, and understanding of the subject and social environment [1] and which coincides with the creation of the final foundations in the brain of the individual, which will form the basis of his adult relationships [2].

During adolescence, sensitivity to emotions and emotional intensity is extremely high, and adolescents explore feelings about themselves, in partnership, and in a group. And all this is the ideal environment, that is, if they feel safe at home, they test it at home; they explore boundaries, mirror, break patterns, etc. They also bring the influences of social issues into the home environment such as group roles and social values. They show awareness of world problems (ethical/political/sociological/religious) and perceive all this through themselves, so we can say that this period is mainly egocentrically. It is extremely important to motivate students during this period with various artistic techniques so as not to discard this medium.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Science itself or even the humanity without art is empty because it is precisely the innovation of ideas and mental flexibility that enables the development of new ideas and ingenious solutions. We would like to strengthen this quality through artistic expression, but if a young person also learns to express his emotions, it is an invaluable medium that he/she can use all his life.

Fine art

Fine art is a specific field that offers students the opportunity to get to know and experience the creative process from concept through realization to reflection. The activities are based on the student's design experience, supported by knowledge of art theory, art history, art theory, social reality and aesthetics. In teaching, practical artistic expression with tools and materials is a fundamental activity. Art design cultivates the student's attitude towards space and brings legality and things in order. The student progresses and develops towards the independent creation of original forms. In art-designing learning activities, the student is educated for independent and creative work and is introduced to the issue of art and visual culture.

The essential purpose of fine art is to develop students' creativity, experience and understanding of fine arts, engaging in contemporary art practices and awareness of the usefulness of art in private, social and professional life.

The key tasks for achieving these goals are:

- Practical artistic expression and creation,
- The use of a variety of design and thought strategies, activities, processes, materials, tools and procedures,
- Linking problem-based tasks to the problems of fine arts and contemporary visual culture,
- Connecting art-based learning contents with art history and all other scientific, humanistic and artistic contents from the curriculum.

Author Valdes in the article 'Adolescent artistic development' emphasizes that the hallmark of artistic expression in adolescence is simplification. Adolescents hide behind simplifications and refuse to show their shortcomings. Caricatures or drawing methods adopted from cartoon characters (anime), comic books, internet and computer constructs etc. find their way into the artistic expression of adolescents. These are characters that offer adolescents an adherence to a certain aesthetic and a kind of anonymity, without exposing their desires, their longings and their hopes. Shame and concealment are also evident in the choice of motifs, since in this period adolescents tend to choose very general themes (e.g.: the four seasons, holiday themes, landscapes, etc.). Their development is characterised by series and copies, where they feel that they are safely exploring techniques and colours through someone else's work.

A suitable theme during this period, which is also taught at school, is perspective, as space opens up and seemingly acquires a third dimension, corresponding to the newly acquired emotional space of the adolescent. With this new emotional component, colours also gain psychological significance. It is only from adolescence onwards that we can talk about the chosen colours as expressively significant.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

It is during this period that students begin to enjoy artistic expression if they continue with it. Maintaining and encouraging artistic expression opens up many possibilities for self-discovery.

Through fine art, students express and explore their emotions, develop their own identity and safely explore their goals and aspirations. In the artistic expression of adolescents, several emotional themes can be identified, dealing with feelings towards oneself or towards other people.

The themes are mostly egocentric, which means that the drawings highlight the self as a subject and the adolescent's experiences of the environment. Adolescents feel a strong connection to the times and the environment in which they live, and their artistic expression may therefore include various pressing themes that touch them at the time (these may also be socio-political images).

Appropriate techniques for responding to such themes are contemporary forms of artistic expression (graffiti, abstractions, unusual materials, responses to contemporary works of art, etc.), which allow the young person to play an active role as a creator, which means that he or she can react to the problems, thus transcending the passivity of the observer and the cynicism of the critic [3].

Fine art as one of the key qualifications in high school programs in Slovenia[3]

It enables students to develop those artistic knowledge, abilities and skills that are necessary for their profession, as well as for their cultural visibility and aesthetic sensitivity. The focus is on developing students' ability to integrate art-theoretical and art-historical knowledge into their artistic practice. The focus is on the students' own practical experience of art making, supported by art historical and art theoretical knowledge, knowledge of other general and professional subjects and practical instruction. The introductory part of the course is important, in which students are introduced to other types of art (music, dance, film, video, opera, literature, theatre, etc.). Modern times and the rapid changes in the various professional fields require young people to know and master artistic skills, both theoretical and practical, and to have a basic knowledge of art history. This knowledge will enable them to creatively follow contemporary aesthetic and design trends in their professional field. This knowledge, more developed artistic skills and abilities will help students to find and develop new creative solutions in all steps - from the idea to the execution and presentation - of the emerging product or service. The emphasis is on practical art design, which is - in the context of a market economy - one of the most important factors in marketing knowledge, products and services.

The teacher focuses on developing observation skills, artistic thinking, creativity, and imagination. In the context of the convergent level of instruction, the student deepens his knowledge of art theory and art history, and in the divergent level, the student practically designs and shapes the result. In art lessons, the independent design of artistic tasks and their realisation and argumentation in the learning process are encouraged. Students are accustomed to making independent decisions on all issues related to the process of artistic design.

Practical art design offers the student the opportunity to learn about and experience the creative process from conception through realisation to reflection. Specific exercises and activities that develop artistic understanding, expression and appreciation are important. The specificities of the

[3] Biotehniški center Naklo

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

individual's development and the needs of the profession in terms of artistic knowledge, abilities and different skills are considered.

Students' basic art and design activities (drawing, sculpture, design, etc.) are supported by knowledge from the history of art. In its broadest form, art history links the world of artistically expressed thoughts, feelings, and other insights with other artistic expressions, or represents how the artist responded to the world in which he or she lived. Its role and importance lie in the presentation of the most important works of art that form a view of the aesthetic and conceptual high points of each historical period and their development, thus supporting a sense of true artistic values and stimulating curiosity and critical opinion about works of art. The artistic content and the practical creation of art acquaint the student with the values of professional, cultural, artistic, and natural heritage and lead him to protect and respect them. The artistic content allows the student a high degree of individual expression, enabling him/her to express his/her personal criteria and views on artistic achievements or encouraging him/her to be a dialogical and tolerant critic.

Pupils are trained to experience beauty in nature and in works of art, to appreciate their own works and works of art and useful objects, especially in the context of their own discipline. In this way, they learn to experience, accept and appreciate artistic cultural heritage and to explore the insights of domestic and foreign fine arts, industry and crafts.

In the learning process, students strengthen their artistic abilities (competences) or their capacity for artistic expression through active methods and forms. They integrate the processes of learning and artistic practice, which are the work of the mind, the heart, and the hands. The school aims to encourage students to develop their own skills independently (especially in the art project in design - design as a possible preparation for the final exam). The student's professional career is the central goal towards which the art assignments are aimed. Art lessons are aimed at open and successful communication between teacher and student. The student is introduced to active learning, (self-)acquisition and self-affirmation of artistic abilities at a pace he/she can manage, problem-based art tasks that he/she begins to set himself/herself within his/her abilities, and habituation to self-assessment and self-initiative. The student also becomes accustomed to taking decisions and responsibility for his/her own creative actions: for planning the art task, carrying it out, evaluating and presenting his/her own work. The use of individual, combined and collaborative forms of learning and artistic expression is suggested.

General objectives of fine art subject in secondary school

Students:

- Develop and enrich imagination, visual thinking, perceptual and observational skills, abilities, imaginative skills.
- Explore and shape visual language into a personal language for effective communication.
- Develop the capacity for creative realisation and the ability to defend what they have created.
- Enrich and develop their emotional, intellectual, experiential, intuitive, moral, social and aesthetic personal qualities, characteristics and abilities.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- Learn about and experiment with the expressive possibilities of contemporary artistic practices.
- Are encouraged to make independent choices of design strategies in the context of concrete art tasks.
- Use appropriate tools and materials that are harmless to health and the environment; develop (specific fine art) motor skills.
- Develop a critical attitude and sensitivity to the messages of artworks and visual communication, emphasising the role and importance of visual expressions.
- Develop thinking skills at different taxonomical levels and in different content levels.
- Create in the natural environment, thereby learning about and understanding the interdependence of human and nature.
- Relate art content to achievements in art history, other arts (film, literature, music, dance, theatre) and with content in science, humanities, linguistics).

Examples of possible horizontal and vertical cross-curricular integration

- Slovene language: expressing oneself when defending students' work, looking for similarities and differences between art and verbal language.
- Foreign languages: translating basic professional terms, comparing linguistic and visual grammar, and syntax.
- Social sciences: the link between social developments and art history (sociology of art and culture); the consequences manifested in art and the appearance of useful objects, the spatio-temporal location of the most important works of art, monuments, and authors.
- Philosophy: the concept of the beautiful in aesthetics; history: fine art as political propaganda; history and geography: the spatio-temporal location of the most important art monuments and authors.
- Mathematics: numerical relationships in proportion, symmetry in art and mathematics; art as a carrier of the symbolic meaning of numbers; geometry (geometric solids in Euclidean space geometric basics of artistic composition), basics of descriptive geometry, perspective, the golden ratio in art.
- Sports: the aesthetics of movement is manifested in dance as well as in other sports; aesthetics can be found in aesthetics can be found in both sport and art.
- Psychology - colour expressivity, psychological types, archetypes, dream analysis, psychology of creativity, laws of visual perception (perception), motivation etc.
- Natural sciences: structure and characteristics of art materials, structure of bodies, physiological basis of spatial perception; biology (man, plants, animals), chemistry (composition and characteristics of art materials), physiological basis of spatial perception (vision); physics (optics, relativity, space-time); physics and chemistry of art techniques.
- Music: content comparison of professional vocabulary - rhythm, composition, experience etc.
- Dance: comparison of basic visual expressions (line, colour, etc.) with dance (movement, expressiveness, etc.); events in time and space captured in a visual product, etc.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- Informatics: digital art, web art, digital video and photography, animation, design of all kinds, tools for three-dimensional representation of an object (modelling).
- Health: correct posture and tools at work, ergonomic and anatomical aspects, care of vision.

Music art

The curriculum builds on the knowledge of music that can be put into practice through carefully and economically planned and implemented lessons. The teacher is autonomous in designing individual units of learning in such a way as to link individual musical activities in a meaningful way to operational-process developmental objectives and content. The teacher adapts the sequence and depth of content and the methods and forms of work according to the needs, abilities, and expectations of the students.

Music is listened to, performed, and created in different combinations of the proposed content strands from which informative content is addressed. The approach requires musical communication that avoids verbal explanations of musical laws and historical facts.

Teachers use active forms and methods of work. Listening and recreating develops the ability of experiential-analytical perception and evaluation. Experiencing is at the forefront, increasing concentration and attention and increasing the dwell time of musical content.

In listening, in addition to identifying musical elements and dissecting musical forms in music, we pay attention to the evaluation of the musical work we are listening to, through critical discussion, comparison, evaluation and conceptualisation of its artistic value. In the same way, listening, in conjunction with performance, plays an important role in the evaluation of one's own performance and the performance of others.

The performance of music is realised through singing and playing instruments. Singing is encouraged through the selection of literature which, in addition to its artistic and communicative value, considers the adolescent's level of development, his/her singing abilities and interests. We encourage a cappella, single, and multi-part singing, including folk polyphony, as well as singing with instrumental accompaniment.

Instrumental playing can be on its own or as an accompaniment to singing. Students play instrumental compositions with their own, improvised, electroacoustic and electronic instruments, Orff instruments and folk or classical music. Singing and instrumental playing are combined with dances. Each time we evaluate the performance of a song or piece with the students in terms of interpretation and experience. Knowledge and understanding of the art of music enables students to develop their values and identity through performing, listening, creating, and recreating.

The subject of music in secondary school builds on and deepens musical knowledge and shapes the student's aesthetic sensitivity and appreciation in the field of musical art.

The content chosen is appropriate to the general and musical intelligence of the students. Both the content and the activities encourage students to critically evaluate music and to consider it as a companion in different life situations. The cross-curricular links of music can be demonstrated in an interdisciplinary and transdisciplinary way. They enable students to know and understand the role of music in different social, artistic, and scientific fields.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Music enables students to develop into sophisticated listeners, performers and music lovers, as they learn about the dimensions of cultural values and needs through personal experience of musical events. Music in the gymnasium, with its openness and breadth, takes co-responsibility for the formation of the Slovenian musical identity and its integration into the European and global cultural space. Music in the gymnasium, with its openness and breadth, takes co-responsibility for the formation of the Slovenian musical identity and its integration into the European and global cultural space. The activities and contents of music lessons contribute to the general and musical development of students and develop lifelong learning opportunities. It enables the deepening of national identity and the relationship with national heritage. Music learning and teaching will be successful if it is integrated, active and creative. Such an approach promotes and enables the achievement of general and process-operational musical objectives in the emotional-social, motor, and cognitive areas of development.

The general objectives of music subject in secondary school:

- To stimulate positive feelings towards music,
- To establish an active attitude towards music,
- Promoting aesthetic and general development through music listening activities,
- Performance and creation,
- To develop interest and responsibility in various forms of musical activity,
- Forming a positive attitude and responsibility towards Slovenian and world music culture,
- Developing sensitivity and tolerance towards different musical cultures,
- The formation of musical values that are important for Slovenian and world musical culture
- Forming a positive attitude towards active listening, performing, creating and the active participation in and appreciation of music,
- Knowledge of music from different time periods and genres,
- Developing critical judgement and appreciation of music,
- Education for a healthy sound environment,
- Making connections between music and other arts, subjects, and fields,
- Learning about musical concepts and the laws of musical language,
- Developing communication and communication in the language of music,
- Expressing musical experiences and performances through movement, dance, art and words,
- Guiding the creative use of musical knowledge in the school process, outside school and vocational education,
- Developing the use of information society technology.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

CROSS-CURRICULAR INTEGRATION

The interconnectedness of music with human creativity and life dictates cross-curricular links. They can be realised in different fields and in connection with social and natural sciences.

- Slovene and foreign language: texts as inspiration for a musical work; literary templates as a basis for programme music and libretto; the role of the text in musical forms; coherence or message of text and setting; folklore; interpretation and evaluation of art texts; domestic and foreign literature; lyrics, epics; song lyrics; word qualities and accents in music.
- History: historical periods; timeline in the development and characteristics of music; social movements, history of peoples; national ideas; musical creations as a reflection of historical social environments; interdependence of the development of dance and society.
- Fine arts, art history: architecture of music-related institutions; elements of graphics in contemporary musical notation; depictions of musical motifs - musical iconography; depictions of musical artists; aesthetic communication and appreciation; form, contrast, sameness, colour, harmony, composition, motif.
- Geography: world and regional cultural centres; folk songs as a reflection of the regional environment; Slovenian ethnic territory; folk themes in composers' works; natural and cultural heritage.
- Informatics: music and music information on the World Wide Web; creating, recording, playing music; digital literacy.
- Physics: sound; oscillation, frequency, transmitters of sound - loudspeakers, receivers of sound; speed, intensity of sound; analysis of the voice.
- Mathematics: ratios, collection, classification, interpretation of data, presentation of data in a table or diagram.
- Biology: environment; senses, hearing, ear, respiratory tract, airway, breathing, speech; organ of song.
- Sport: motor skills (coordination, speed, flexibility, accuracy), non-verbal communication, motor creativity, folk and ballroom dancing, pantomime, movement relaxation, breathing exercises; healthy environment.

Dance and theatre

The impact of dance on the development of self-knowledge and self-expression is very important, but so is the social aspect of dance - it connects us to others and to others. Dance gives us the opportunity to express ourselves without words, through movement. We express what we feel, what we think, who we are. For some people, this possibility of expression is closer than verbal expression. We can speak without words. We can express our feelings - both positive and negative, which sometimes do not come off the tongue for some of us. We can imitate and empathise with other people, take on roles, impersonate other living beings. Through movement and through dance, we can discover who we are and who we are not. How does a tree move in the wind? How does the sea ripple?

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

At the same time, dance gives us the possibility and teaches us to communicate non-verbally with others. To connect with our fellow human beings through the touch of our hands, our feet, our gaze. To feel and recognise the energy of the other and to connect with it. To be compliant, to adapt, to be patient. To trust. Dance teaches sensitivity and empathy. To recognise and be able to empathise with another's feelings or experience. Dance can connect us to a group. It encourages cooperation, acceptance of difference, acceptance, and recognition of oneself in a circle of others. Dance relaxes and entertains. It makes us smile.

Dance teaches us and allows us to become aware of our bodies and motor skills. Also, the limitations that the body has when moving. Later on, it helps us to become aware of and learn about and recognise individual muscles, bones. Through dance we learn about gravity, balance, flexibility and so on. Every dance and every dance genre have its own story. It can be very individual and personal, but it can also be a vehicle and an indicator of society, of history. When we teach and transmit a particular dance, it has a social - anthropological and historical background. To truly embody and understand it, it is important to know a particular dance in its entirety. In this way, dance can be an excellent medium for learning about the societies and cultures of the world. In dance and movement, we can give the opportunity to observe and imitate precise or prescribed movements.

Dance is included in secondary education programmes as part of the subject of sports education and includes practical content, such as dance movements with different rhythms and tempos, social dances, popular dance genres and aerobics. The theoretical content deals with dance from a sociological, psychological and cultural perspective. Cross-curricular links are mainly with music, psychology and sociology. Talented musicians and dancers can continue their musical education at secondary level, in the artistic gymnasium programme, after finishing music school.

Artistic gymnasium programme – Dance classes

In the process of teaching dance, we create an atmosphere where students relax, trust each other and create independently and collectively. The basic principle in this process is the connection between movement and inner experience and emotion. Dance allows students to increase their personal capacity for experience on a physical and intellectual level, but above all, on an intuitive level, it returns them to spontaneity, where personal freedom and their own creative expression are unleashed, through improvisational instructions, where the student has to tackle a task in the moment without any prior preparation.

The creative process of dance and theatre allows the exploration of the self and is one of the forms of human expression and self-awareness, since the basic instrument of dance is our body, in relation to time space and other bodies. The creative process in contemporary dance art depends on the artist's conception, where freedom of choice and action are at stake. The use of the body and technical skills through space and time, in collaboration with other factors of the artistic process, serve as forms of communication. By introducing students to different movement principles and establishing their own movement identity, we encourage dance and performance creativity, as well as exploration of their own movement expression.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Students enrich the knowledge they acquire by actively and creatively acting out their experience, building a healthy sense of self-esteem and confidence.

Through acting/performing, students develop an intuitive and expressive capacity for expression. Through systematic experimentation, observation and analysis, they learn about, develop, consolidate and build on their performance abilities. They learn about different performance techniques, are aware of their importance and consciously integrate them into their own stage creativity. Through performance, they are able to judge which linguistic or performance genre is appropriate in a given communicative context.

Students develop the ability to improvise as a specific mode of artistic creation. They are trained to creatively realise their conceptual world: they experience, understand, actualise and, with the help of their experience, their knowledge of performance and their general outlook, evaluate and name other performance genres that belong to public artistic production. Through interpretation, they develop performative and evaluative, evaluative reflective experiences, as they identify and evaluate the specificities of the performative effectiveness of the scenes created. They become familiar with effective ways of staging by peers, professional artists and the media. Through improvisation and performance creation (including re-creation), students test themselves and in this way develop and deepen their capacity for artistic imagination and aesthetic experience. By demanding interdependent teamwork and immersion in the other's position, they build personal commitment, enthusiasm, connection with other persons and respect for the other as different.

Objectives

Students:

- Develop aesthetic perception and artistic imagination.
- Develop their own creativity and motor imagination.
- Experience and articulate their experience of the creative process in a practical way.
- Develop innovation and criticality in the selection and composition of dance material.
- Deepen the principles of improvisation and composition.
- Master the laws of the stage space and develop stage presence.
- Create dance space by working in groups, pairs and individually, (individual and group creation).
- Develop the ability to appreciate dance and dance-related arts.
- Develop performance skills, consistency in work and work habits.
- Develop concentration, self-control, motor memory and physical fitness.
- Develop a positive self-image: body esteem and self-confidence; and attitude towards others.
- Find, analyse and choose music for dance.
- Learn and understand the artistry and diversity of choreographic approaches, ideas and explore these palettes.
- Show the results of a creative process on a given theme to others (groups, parents, peers).

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- Learn about the possibilities and requirements of further dance education and professions by the possibilities of further education and training in the field of dance, are aware of the important role of an active performing arts experience in their personal, social, and later professional life.
- Explore the possibilities of expressing movement, dance, and theatre content through contemporary technology, developing the use of computer and other digital equipment.
- Develop a positive attitude and responsibility towards Slovenian and world dance.
- Develop a positive attitude and responsibility towards the world and dance production.
- Make connections between movement and dance and other arts, subjects, and fields.

Cross-curricular integration

Together with other vocational and general education subjects in secondary school, dance offers an active artistic experience through performance or acting and develops key competences: active communication in the Slovene language (where foreign or invented languages are not excluded), learning to learn (the artistic experience ensures an open development of personal identity, in a spirit of acceptance of the reality of multiple life perspectives), social and civic competences (proximity to artistic and ethical experience), self-initiative and entrepreneurship (participation in artistic creations), and broadens the possibilities of artistic expression.

Students are aware of the important role of an active performing arts experience in their personal, social and later professional life. They are aware that creativity is a way to sharpen our perception through greater sensitivity, increased empathy, emotional and ethical capacities, and that the performing arts are a medium for revealing new aspects of life perspectives that can take on the whole person.

Through the performance of different situations, students develop the ability to communicate actively on several communicative levels, listening (watching), expressing themselves through movement or, in the theatre laboratory, speaking texts and performing them (physically, using the space). They are aware of the equality of all the individuals who co-create the product. In different situations (solo or group compositions), they perform, stage/act scenes and observe their classmates, reflectively and critically; they analyse and evaluate what they create from different perspectives. Through improvisation, they explore the principles of dramatic text production, and in movement improvisation, they explore the different principles of concept and composition.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

How the art is combined in the curriculum and why art lessons are important for pupils?

According to the Music teacher in one secondary school[4] in Novi Sad 'art and creative forming is what makes a person complete and distinguishes him from other species.

Even very young children react spontaneously and intensively to music specifically. It is important to nurture art objects at an early school age, to develop creativity, individuality, creative thinking.

In our schooling, art and art-related subjects are reduced to mere doing, often not even that. In the older grades of primary school, repulsion to art subjects is created because pupils are expected to have a certain level of knowledge and acquired skills, but instead of art and music culture, the teacher did Maths or went to play in the playground. Such agony continues in secondary schools, there is no great correlation between subjects, curricula have no points of contact, and there are non-innovative methods and topics that are not very close to pupils. Art classes must be radically changed, redesigned, and only then presented to pupils as something they enjoy, not something they get bored with'.

According to the Music teacher in one primary school in Novi Sad 'there is art in every segment of life. It is not present in every class, but it is rare for anyone to emphasise it. Art is necessary because of love and beauty; it is a primary education and culture. It is important because it is a general culture and I think that pupils need to know the basic concepts.

Art is very important because of hearing development, listening to music itself, developing personality in music, hand motor abilities, playing various music instruments for soul and body. Music is everywhere around us: various sounds, tones, people, wind, storm, thunder, crying, creaking, etc. There is a lot of correlation of subjects with music culture. Thomas Alva Edison, an American physicist, developed many devices such sound recording and motion pictures andinvented the first sound recorder, a phonograph.

A man was born with music, wanted he that or not. There are no accurate data about the origin of the music itself; it is the word of Greek origin where tones are a means of material.
A lot of musicologists such as Herbert Spencer, Isaac Stern, Carl Stumpfhave tried to answer this question related to music, but they didn't succeed.'

Effects of Arts-Based Teaching and Learning on Affective Development[5]

Affective development in this context means an increased interest in learning, self-worth, and willingness to try new things. According to the literature, arts-based teaching promotes affective development by increasing the learner's interest, motivation, and enthusiasm for learning. Improved enthusiasm and motivation can be the result of the higher expectations for students associated with whole-school reform, or from specific art and academic activities that engage students, such as art and reading activities that build upon children's literature.

[4] E-gimnazija
[5] CRESOL

Co-funded by the Erasmus+ Programme of the European Union
This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Arts-based instruction increases interest and motivation. All students, including diverse learners and those at risk for academic failure, can reportedly achieve more and are more likely to stay in school when they have a "love for learning". Students who struggle with school because they are not part of the dominant culture benefit from arts in education because the arts make education more equitable. According to a review of national projects, arts-based teaching broadens and increases access to education by providing multiple ways, along with representation from multiple cultures, to derive meaning from academic and social curricula.

Howard Gardner's multiple intelligences theory supports the use of a wider range of instructional strategies than those typically found in school to motivate learners. Arts-based teaching and learning strategies are among those that appeal to multiple types of intelligence and engage multiple ways of learning.

Arts-based instruction increases self-esteem and willingness to try new things. As students become more engaged in learning, their attitudes toward school, and toward themselves, improve. Students with a positive attitude toward learning are more willing to try new things. As Eisner put it (2002), the arts allow people to "invent and reinvent themselves" [4].

Effects of Arts-based Teaching and Learning on Cognitive Development

Cognitive development in this context means areas of ability and expertise that can be applied successfully to academic and social learning situations. Authors describe these abilities and areas of expertise to include creativity, self-direction, and complex thinking.

Arts-based instruction develops learning abilities. The literature provides some evidence of cognitive skill development through the arts. Standardized tests of creativity showed more highly developed creativity in students who participated in arts-based reform. Burton noted that students in high-arts groups performed better than those in low-arts groups on measures of creativity. He concluded that creativity is a "capacity" for learning that can be developed through an arts-based curriculum. In related areas, high-arts students also demonstrated better capacity than low-arts students in the areas of fluency, originality, elaboration, and resistance to closure.

In "Learning through the arts: Curriculum implications" [5], students connect with themselves, each other, and the outside world. These connections, along with self-direction and self-assessment skills, help prepare students for the workplace.

Arts-based instruction develops thinking skills. Thinking skills attributed to arts-based teaching include improved comprehension, interpretation, and problem solving. Arts-based instruction develops neural systems. Its influence on neural systems is another way to associate arts with learning. By engaging the brain, the arts enhance neurobiological systems that support cognitive, emotional, attention, and immune systems.

Social development may be related to arts-based learning. The arts help students develop communication and cooperation skills. When students learn to express themselves more effectively, their relationships with other students and teachers improve.

Schools should include the arts in their curriculum based on "inherent merit," rather than effect on academics, according to Winner and Hetland.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Academic development may be related to arts-based learning. In terms of specific academic skills, the literature presented some data to support relationships with art. Burton et al. (1999) noted that "competencies and dispositions" developed through arts-based teaching also emerged in other subject areas, such as science, math, and language.

Art in the Valencian secondary education curriculum[6]-

Art as a visual and audio-visual language is included in the curriculum since it is used as a means of expressing ideas, thoughts and emotions. In the Spanish curriculum it starts in Primary Education and continues through the four years of Compulsory Secondary Education (ESO) as well as in Higher Secondary Education (Bachelor). In the stage of Compulsory Secondary Education, Art is an optional subject in 1st, 2nd and 4th years and compulsory in 3rd year.

The main aim of the contents of this area is not to form professional artists but to develop the students' basic skills in the field of visual art and audio visual expression in all its wide range of possibilities: publicity, comic, television, cinema, photography, design, drawing, painting, sculpture, multimedia, engineering and architecture.

Its objective is that all the students develop their abilities to appreciate, express themselves, analyse critically and create images. All of these are the main abilities to understand their immediate environment, which is full of visual information, with a reflective and critical attitude as well as to be able to experience and elaborate new working proposals.

In addition to this, the artistic competence is considered to develop their imagination, creativity, and aesthetic sense.

Regarding the acquisition of the key competences, this subject contributes to the development of all of them since it has an integrative character:

1. *Cultural Awareness and Expression Competence,* by being a vehicle of creative expression of ideas, emotions and experiences. It highlights the importance of cooperation abilities and contributes to the ability of comparing our creative opinions and artistic works developing respect and open-mindedness for the work of the others. It also stimulates the interest for taking part in the cultural life, helping to understand our own culture, respecting our cultural heritage and developing a feeling of identity.
2. *Digital Competence,* by using the ICT and technology resources as a tool to produce artistic works, not only do their computer skills improve but also it enhances their technological competence.
3. *Mathematical Competence and Basic Competences in Science and Technology,* this is mainly involved in the area of Technical Drawing. However, Art also introduces the values of sustainability and recycling in relation to the use of the materials to create works of art and the preservation of the cultural heritage.

[6] IES CID Campeador

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

4. *Linguistic Communication.* Apart from learning a specific vocabulary, students learn to express concepts, thoughts, feelings, facts and opinions. It also helps the interaction and the constructive critical dialogue that favours coexistence.
5. *Learning to learn Competence.* This subject favours reflection over the artistic process and the artistic experimentation. This artistic process also teaches to accept mistakes as a tool for improvement.
6. *Sense of Initiative and Entrepreneurship Competence.* The creative process implies turning an idea into a product. All this process enhances the initiative and personal autonomy as well as the entrepreneurship.
7. *Social and Civic Competence,* it promotes attitudes of respect, tolerance, cooperation, flexibility and the acquisition of social skills. It creates an ethical code that prepares students for their life as a citizen.

Other elements in this area include the development of cross-curricular knowledge among which respecting the environment is a key element.

In the Higher Secondary Education Curriculum, Art is taught in depth through three different subjects:

- *Artistic Drawing*. This subject is offered as an optional one for all the students in 1st and 2nd year of Higher Secondary Education. In this subject student develop the skills and concepts learnt in the previous years to use them as a tool for the creative process. Its main aim is to contribute to the acquisition of the necessary skills for the ongoing training of the individuals and to encourage divergent thinking. It combines theory and practice, mainly working through global projects in which they learn to apply the artistic drawing skills to an increasingly specialized and technological society.
- *Design.* It is an optional subject in 2nd year of Higher Secondary Education. Design is learnt as a tool to improve the quality and identity of products and services while it tries to satisfy the consumers' aesthetic and use needs, always trying to improve their quality of life and the environment. Thus, it is necessary to train future professionals to meet the new social needs. Among the contents of this subject, the historical evolution in the main areas of design is studied so that students understand that the activity of designing is always conditioned by the natural, social, and cultural environment in which it takes place.
- *Techniques of plastic-graphic expression.* It is an optional subject in 2nd year of Higher Secondary Education. *Plastic-graphic* materials and techniques provide students with the tools and resources necessary to express and communicate ideas, emotions, feelings. This subject provides students with artistic training aimed at developing the necessary skills in the knowledge and application of these technical resources and instrumental applications, some of them used since ancient times, evaluating their evolution in an increasingly specialized and technological society.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

General principles of art in education

Short history

Many education strategies for the future point out the importance of linking cognitive and emotional processes. In this context, art and learning processes in art are increasingly recognised in the world today as cognitive areas of vital importance for the harmonious development of children and youth.

- **At the beginning…**

  Adam received the first lesson from God: break the law and you will pay a price.

- **At the very beginning...**

  Before the origin of written words (the so-called era of pre-literacy), everything that people learnt was transmitted orally.

- **3000 BC**

  Egyptian 'school temples' appeared. Priests taught religion, writing, and the sciences of that time.

- **2000 BC**

  The first official schools in China.

- **1500 BC**

  Priests in India taught religion, writing, philosophy, science.

- **850 BC**

  Epic works of the Iliad and Odyssey were created, which have great importance within the framework of education in the field of Greek history and mythology. In Greece, only free people (not slaves) had the access to teachers.

- **550 BC**

  Confucius, the most brilliant Chinese teacher, and philosopher. A great deal of Chinese society today is based on his teaching based on the structure of morality. In his teaching, the importance of kindness, kindness, generosity, and respect for the elderly was emphasised.

- **400 BC**

  Sophists, wandering teachers in Greece, taught people how to argue by using logic. The great philosopher Socrates gave lectures in public squares to all those who wanted to listen or participate in the debate. He highly valued the search for the real truth, in relation to bringing victory by using arguments (too simple according to him) and encouraged people to think themselves.

- **387, 355 BC**

  Plato and Aristotle founded schools in Athens. Plato's school is called 'Academy'. Both schools are focused on the truth. Plato wrote the Republic, describing his own vision of a perfect society and education, based on a social point of view.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- **100 BC**

The first education program was organised. Two Romans, known as Cicero and Quintilian, had ideas that are still in use in modern Western society. Cicero claimed that education should be extended to the arts and sciences. Quintilian said education should be based on students' ability to learn.

- **At the very turning point in counting years**

Jesus taught in Jerusalem.

- **105 AD**

Paper was invented in China.

- **500-1500 AD**

This period is known in Western culture as the 'Middle Ages'. It is an era of very slow progress, but some progress was made when it came to education. In the so-called 'writing rooms', the monk's copied very important texts by copying them by hand. The Catholic Church has had a very large influence on all forms of teaching during that period. Priests taught religion, writing and science.

- **500 AD**

Nalanda, a major Buddhist university in India, was home to more than 10000 students. It is the largest residential place for learning with temporary accommodation. Subjects included religious teaching as well as philosophy, grammar, and medicine.

- **999 AD**

Avicenna, Iran's leading thinker in the field of medicine wrote the Collection of Medicine. That work, as others written by Arab, North African and Spanish thinkers, had a great influence on educational ideas in Europe.

- **1000 AD**

Arab school and learning. Europeans learnt the Arabic numeral system that is still used in today's West. Priests taught religion, writing and science.

- **1100 AD**

Scholasticism, a movement that helped to bridge the gap between purely religious teachings on the one hand and philosophical-scientific thinking on the other.

- **1150-1250 AD**

There were founded so-called 'Modern' universities: in 1150 in Paris (Sorbonne), in 1209 in Cambridge. In 1249 in Oxford. St Thomas Aquinas, a Catholic theologian, was actively working on the concept of scholasticism in Paris. Universities started to offer the possibility of obtaining a degree in various fields and subjects.

- **1450 AD**

The first printing machine was patented. That discovery influenced the development and improvement of literacy by making books more accessible to wider social strata.

- **1499 AD**

Desiderius Erasmus, a Dutch teacher, began by studying old documents. He advised teachers in Europe to think about literature, and not just read it or, if necessary, memorise certain parts.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- **1500 AD**

The Renaissance period, which spanned the entire 17th century, marked the beginning of a renewed interest in learning. Italy stood out as being particularly active during that period. More and more women started to get an education, although it was still inaccessible to much of the population, regardless of gender. A lot of important mathematical texts were translated into useful languages, which was an exceptional incentive for further learning and development of the entire science.

- **1517 AD**

With the beginning of the Reformation period, literacy also improved. Since they have acquired the ability to read, individuals questioned the authority of the Pope himself. Printing the Bible in local languages and dialects contributed significantly to increasing literacy. Reformers established schools where people learnt basic subjects in their mother tongue.

- **1592 AD**

The performance of Shakespeare's works in England began. A theatre is a place where philosophical ideas could be learnt from the stage, helping an illiterate audience to develop and think.

- **1609 AD**

There was a censorship in education. Galileo, inventing the telescope, publicly declared that the Sun is the centre of the universe and was denied by the Catholic Church because it posed a danger to the survival of the faith. He was forbidden to spread learning based on his own inventions.

- **1620 AD**

The first handheld computer was invented, which greatly simplified the practice of mathematics.

- **1659 AD**

Comenius wrote the first picture book for children. The Czech lecturer travelled through Northern Europe, encouraging teachers to make classrooms much more interesting places for children.

- **1690 AD**

The brain is an empty, unimproved piece of stone. The English poet and philosopher John Locke discussed the fact that we were born with empty minds, and that education should gradually lead to our development and that, therefore, education should begin in early childhood.

- **1770 AD**

Education is important for everyone. The Americans Thomas Jefferson and Benjamin Franklin advised that education is of great importance for all citizens of the newly constituted nation.

- **1799 AD**

The first ‘modern’ primary school was opened. Joan Pestalozzi, a Swiss lecturer, began founding schools throughout Switzerland and Germany. Schools are known for using the so-called ‘target lessons’, all the senses and expressiveness to help children learn.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- **1833 AD**

The first tax on education in Britain lead to the breaking of the church and private monopoly in education.

- **1837 AD**

The first kindergarten was opened by Friedrich France as a place where children could learn and progress in development before starting primary school.

- **1852 AD**

The first completely free education in the USA state of Massachusetts. The mid-19th century most governments in Western countries adopted a state plan of compulsory education for the entire population.

- **The 1990s**

The first correspondence courses appeared in Britain and North America, based on ideas from the universities of Oxford and Cambridge.

- **1918 AD**

All states belonging to the USA required free education.

- **1920 AD**

Early childhood learning was emphasised. Maria Montessori, of Italian descent, developed a method that is still in use and allows very young children to learn basic life skills that include practical, sensory, and general knowledge. Her ideas influenced the work in kindergartens and preschools.

- **1921 AD**

The first official American programme 'Studies Abroad' sent students to the University of Delaware in France.

- **1951 AD**

Television as a teacher: Jack LaLanne educated the Americans about the importance of mandatory daily exercise. He continued to do that for 34 years.

- **1960 AD**

Multi-media-based devices conquered classrooms. Slide and film tape projectors as well as cassette players became a common thing.

- **1969 AD**

Television debut of the famous children's show 'Sesame Street'. It is an educational children's programme in sequels in which puppets and actors taught children the basics of reading, morals, and music.

- **1970 AD**

The appearance of electronic mathematical calculators caused fear among lecturers that students and pupils would forget to do basic mathematical operations. History has shown that they were right.

- **1973 AD**

The popularity of home learning was growing again. The popularity of that phenomenon grew with age for several reasons.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- **Early 1980s**

  Television in the classroom. The fact that cheap VCRs have become readily available has resulted in video learning being a standard occurrence.

- **Late 1980s**

  Computers came into schools in 1989.

- **Late 1990s**

  The Internet was changing everything. The development of the Internet enabled communication as well as instant access to information, to any person around the world, through a connection. The content was supplemented and evolved at an incredible speed, so it was possible to do research on any topics, even virtually. E-learning courses were developed to enable participants to learn online.

Meaning of art in education

To begin with, art in education is essential. Its main purpose is to stimulate the human senses and the human mind and spirit, but it plays a different role in education. It teaches us that practice leads to perfection, that perseverance is an important factor for success, and that with the right motivation we can achieve everything. It influences the development of social and emotional intelligence, improves motor skills and abilities, and contributes to increasing of self-confidence. By its very nature, art engages several different skills and abilities. Engaging in art, either in visual art, drama, music, dance or the like, develops and enhances cognitive, social and personal competencies.

Art is a challenge for teachers as well and makes them constantly learn. This sets a good example for pupils because they understand that learning is a continuous process that causes pleasure. Teachers must learn and improve because in curriculum where art has a significant role, there are no ready-made answers, there are no final and determined solutions, the teacher is the organiser and 'the coach'.

Art also provides new challenges to pupils who are already considered successful. Strictness and limitations are barriers to achieving the success. Art can offer unlimited challenges. Art connects the learning experience with the world of real work. The world of work has changed and the learning experiences gained by studying art can help young people become involved in the modern world of work - where the most important are ideas, the ability to generate and realise the ideas and communicate with them.

Engaging in the arts allows pupils to be directly involved in the art world. Whether they participate in the creation of works of art, in the performance or teaching of young people, pupils gain experience with artistic content, materials and methods. Pupils work with teachers who are well trained for this type of work, with teachers who are eternal pupils. They are leaders of change.

Pupils who are more engaged in art acquire the ability of self-regulation, identity building, openness to new experiences and resilience - qualities that are directly related to personal success in life. Pupils who would otherwise complain that they are bored, when they do art in the right way, find many challenges in learning.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Unlike other learning experiences, when right and wrong answers are sought, art allows for a wealth of solutions. Effective learning in the field of art is both complex and multidimensional. It creates an opportunity to take risks and shows that the risk pays off. Pupils manage their risk and learn to make decisions.

Art programmes in such oriented schools provide an opportunity to actively cooperate with the local community, which connects learning with the real life of pupils and their families.

Art encourages independent and self-directed learning. Pupils, who learn art, through art are slowly becoming their own harshest critics. Pupils here are not motivated to learn because of good test scores, but because of the learning experience as such.

- **Creativity**

Creativity is a very important factor both in everyday life and in education. If the child learns to think creatively through practice, it will help him/her in the future of schooling. He/she will become an independent person and will be able to educate himself/herself on his/her own initiative, to create without any obstacles. His/her possibilities will not be limited.

- **Motor skills**

Children who are engaged in art, either in playing an instrument or painting, have much better motor skills. Simple things like holding a paintbrush or painting with crayons are essential elements for developing motor skills. Progress occurs through participation in extracurricular activities and participation in various workshops.

- **Self-confidence**

When a child masters an object very well, his/her self-confidence grows, but he/she grows much more by participating in activities that require creative thinking. Singing on stage or playing a role in a school play can make a child very proud of himself/herself and full of self-confidence. Public speaking is the perfect way for a child to get out of his/her comfort zone by doing something fun and progress in terms of emotional intelligence, that is, to work on raising self-confidence. Children under the influence of art find it easier to express their creative abilities.

- **Visual learning**

Drawing, painting, and sculpting contribute to the development of visual-spatial intelligence, especially in young children. Art teaches children how to interpret, criticise and how to use visual information. It also teaches them to make decisions based on them. Research has shown that more can be learnt when something is visually presented than through reading a text.

- **Making decisions**

Art solves the problem of critical thinking. How do I express this feeling through dance? How do I play this role? Learning how to make the right choice and make the right decision will affect further education, as well as other aspects of a child's life.

- **Perseverance**

Art is demanding and full of challenges. It is very important to be persistent in everything you do because persistence pays off. This attitude will be valid for later life, especially during your professional career when you will encounter various obstacles and challenges that you have to find ways to overcome.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- **Focus**

When you are trying to persevere through drawing or singing or trying to learn something, focus is imperative. Concentration is the base for any success. Focusing teaches patience, calmness, and composure. The best way to do that is art - in an interesting way you practice staying calm and at the same time you create a beautiful work.

- **Collaboration**

A lot of types of art require group work. Through music and acting, children learn to work as one. A music band, a school choir or a theatre troupe require children to work together. Compromise leads to the highest success, and that is achieved through collective work. In that way, children learn that their contribution to the group is an integral part of success, even though they do not have a leading role.

- **Responsibility**

In a group, everyone has a role to play that carries with them responsibility. If they do not do a certain task or do something wrong, children must understand that it is important to take responsibility for what they have done. Mistakes are an integral part of life. Children need to be taught how to accept mistakes, correct them and move on, because it helps them a lot during the growing up period.

- **Motivation**

Last, but not least is motivation. Internal motivation is the goal of success. What matters is how much what we do fulfils us. Our own desire to work is what drives us and makes us shine. Through art, motivation is manifested by a desire for perfectionism.

Moreover, there are five life skills that children learn through art:

1. **Social skills**: By sharing materials and collaborating on creative projects, children learn to collaborate with others, negotiate and work as a team.
2. **Cognitive development**: Art teaches children how to think independently, from early sensory examination (the feeling when a crayon crosses the surface of paper, the smell of paint) and decision making (what to show, which materials to use), to problem solving (how to combine two materials).
3. **Self-expression**: As a valuable means of communication, art precedes written and verbal expression, enabling children to tell stories and express their thoughts and feelings.
4. **Development of motor skills**: Fine movements of fingers, hands and wrists that a child performs while holding a crayon or brush, while drawing, colouring or shaping Plasticine, help develop fine motor skills of children, while wide hand movements used while painting on an easel or large piece paper laid on the floor develop large muscle groups.
5. **Inventiveness**: By encouraging children to experiment and take risks by trying out novelties during the creative process itself, we enable them to develop inventiveness, as an absolutely valuable ability for future life and career.

The development strategies of many countries emphasize the importance of education as a priority for economic and social development. Also, special attention is paid to connecting cognitive and emotional processes, as well as encouraging intellectual and emotional balance in children. In this context, the application of art in learning is vital for the harmonious development of children and young people [6].

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

The 21st century is characterized by rapid changes caused by many scientific discoveries, as well as the introduction of modern and new technologies. Among other things, we live in a time of a high degree of national and global interconnectedness and a society that is increasingly becoming multi-ethnic and multicultural. The modern world of work emphasizes the importance of ideas, the ability to generate and realize them, as well as to communicate with them.

For this reason, it is necessary to balance learning, which will deepen and encourage young people to look at different problems from new angles thanks to appropriate development needs [6]. When teaching is well designed, it provides young people with an authentic learning experience that engages the mind, heart, and body. The learning experience is then realistic and has meaning. While conventional learning often focuses on the development of one type of skill or talent, the application of art engages several different skills and abilities. Engaging in art, be it visual art, drama, music, dance, or the like, develops and promotes primarily social and personal competencies. Art in education is a good way to discover your own skills, imagination and create new ideas. It is important to point out that in this way it is possible to reach those students who are not easy to reach. This primarily refers to young people who have been expelled from school or other institutions.

The positive impact is reflected in the fact that often "problematic" students become very successful in an environment where learning through art. By applying art in learning, the student connects with himself, but also with other students. It is important to note that art is also transforming the learning environment, as it has been given a central place to explore. The school becomes a "new" place where the "walls" between classrooms and disciplines disappear. It also has a positive impact on students who are already considered successful, because they overcome barriers and offer unlimited challenges in mastering the material. The application of art in learning is also a challenge for teachers because they have to constantly learn and improve and thus express their creativity. This is a good example for students as well because they understand that learning is a continuous process that causes satisfaction. Research has shown that students who learn through art become their own harshest critics, build identity, openness to new experiences, and possess the ability to make choices, take responsibility for them, and defend them (Picture 1).

This type of knowledge acquisition provides an opportunity to actively cooperate with the local community, which connects learning with the real life of students and their families.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Picture 1. Creative ways to recycle plastic bottles
(https://www.theempowerededucatoronline.com/2017/02/16-play-based-plastic-recycling-ideas.html/)

Education

Innovative learning and development of both teachers and pupils, by applying alternative and modern methods of education, indirectly influence the qualitative development of the education system in Serbia.

We believe that education creates the potential for a more beautiful and better world, an education that does not delay life but empowers us for it. This is possible only if the attitude towards learning changes and such a relationship is created between all participants in the educational process, which is based on trust, responsibility, and mutual respect. In the modern age, the development of creative thinking is best achieved through a multidisciplinary approach.

By applying multidisciplinary learning through combining different arts, an interactive approach combining art and technology, pupils can express their creativity, adopt principles, acquire new skills and create interesting works as an expression of their inspiration.

During art education, pupils develop broader characteristics:

- the ability to think creatively.
- out of the box problem solving.
- self-confidence.
- communication.
- care for others and the environment.

A child is a unique work of art. Such should be his/her education.

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Arts in education

Arts received increasing importance inside the educational and public discussions. The traditional methodologies and practices of art (e.g., music, visual art, and performance) are promoted and being taught in schools, as part of their curricula, and utilising arts in education has been proven to both support and enhance learning and teaching through technology and multimedia [4, 7, 8].This is a critical focus in bringing together global and local aspects as well as cultural and heritage issues in education, while providing opportunities to enriching learning in pedagogy and practice [9, 10].

Arts in education can provide bridging opportunities between culturally diverse groups, redefine, and reshape knowledge outside of formal classrooms and examine critically how patterns of practice in areas outside of the arts are supported through the arts. Also, they play a crucial role in in linking students' knowledge outside the classroom with the knowledge gained through the official curriculum and, in turn, about how such knowledge contributes to the formation of student and teacher identities [11].

Seneca Academy in Maryland, USA, has been integrating arts in their curriculum and into their core classroom curricula as well as teaching artistic skills and abilities. Their experience concludes that teaching through the arts can present difficult concepts visually, making them easier to understand.

Furthermore, integrating art with other disciplines reaches students who might not be engaged in the classroom, while it boosts critical thinking, motor skills, language skills, social skills, decision making and risk taking [12]. Westlawn Elementary in Fairfax County, in the US, teachers are using theatre to teach math, and this form of art integration is increasingly becoming more popular in the school curriculum.

Teachers are using dance, drama and the visual arts to teach a variety of subjects in a more engaging way [13]. These case studies support the notion that arts engage multiple skills and abilities rather than a set of disconnected skills. They provide students, with authentic learning experiences that engage their minds, hearts, and bodies. Several of the strengths of the arts are described in the 1999 report Champions of Change [14] which lists several shared perspectives emanating from studies conducted by well-known scholars and serves as a good framework to discuss a range of other issues in the study of the arts. Therefore, the arts can reach students who are not otherwise reached, including those who are disengaged from schools and social institutions in the community and those at risk for hardship and alienation [15].

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Module 2 - Best art practices in education

This module focuses on artistic knowledge, which stems from the experience of good practice, with the aim of helping teachers acquire knowledge of techniques, methods and creative possibilities in order to improve teachers' knowledge and transfer great artistic potential to them. This section will include proposition for best art practices available and approved in teaching practice with accent on active approach. E.g., one of the good practices is that it is based on stimulating critical, but at the same time creative thinking (which is based on real experience).

As mentioned above[7], students get to explore art through STEAM as well.

STEAM education is about igniting students' imagination and creativity through the concept of arts. Arts, as a term, represents liberal, language, physical, fine arts, social studies, and music. Subjects related to art, contribute to the development of 21st century skills like collaboration, communication, problem-solving and critical thinking. It also builds up students' flexibility, adaptability, productivity, responsibility, and innovation. In addition, art is about exploring and generating ways of integrating principles and presenting information. Art programs have the potential to improve students' memory and concentration skills, enhance decision-making, improve self-esteem but also encourage discipline."

Best art practices through STEM

Art is about discovering and creating ingenious ways of problem-solving, integrating principles and presenting information. By adding the elements of art to STEM based thinking, students can use both sides of their brain—analytical and creative— to develop the best thinkers of tomorrow.

Arts make STEM topics more engaging—even to kids who don't think they like science or math.

Science itself is art. All parts of nature are woven together in a beautiful, seamless 3D tapestry. It is complex, yet elegantly simple. To figure out the pattern and how it all fits together takes creativity. Sometimes, it requires thinking outside of the box. It's the free-thinking, creative side of the brain that allows for problem-solving and what-ifs to be tested.

That is why creative people make great scientists and mathematicians and technology professionals of all types. They are the innovators that breathe life into all areas of STEM. Without art, discoveries and advancement would be hard to come by. A few art practices that are /can be incorporated into STEM curriculum.

- **Comic Strip**

Create a comic strip that teaches the content. Get students to create their own digital comic through which the content of the lesson will be explained.

[7] P.G.M.S.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

In order for students to be able to create the comic it will require their **deep understanding** of the content they need to create the comic from, and at the same time use their **imagination** and their **artisticskills**. ***Pixton*** is an example of an app which could be used to create comics.

- **Poster**

Create a poster to present information to other students or for a public-school event. Creating a poster will again compel students to use their **artistic**, **communication** and **creativity** as well as **technology/digital** skills. ***Figma*** is an example of an app which could be used.

- **3D Design**

Use 3D design technologies to reinforce the students **coordinating** skills and **embed their understanding of 3D structures**.

3D Paint or Tinkercad are 2 of the apps which could be used for 3D design

Video

Make a video that explain the topic, or present the work of pioneers in science, or create awareness about environmental issues like climate change. Through the creation of video students will need to work on their **communication**, **collaboration,** and **artistic** skills. ***Animaker*** ***or Movie Maker*** is 2 apps which could be used to create and edit a video.

- **Crafts**

Use everyday materials like play dough or clay to design and construct structures like cells. Through such projects students work on their **imagination** and **artistic skills** and develop **critical thinking skills** through the process of deciding best materials to be used according to the project at hand.

Best art practices in education[8]

In our High School, IES CID, there is a long tradition of using art to work on global projects that aim to transfer the use of art to other areas of education especially cross curricular knowledge, also to stimulate critical and creative thinking. Art classes go beyond the classroom and students work actively and cooperatively to develop projects which have different objectives, namely, expressing emotions, ideas, reflecting on social or political problems, creating awareness about gender violence, racism and so on.

Here are some examples of the best practices that have been developed along the years in our High School:

[8] IES CID Campeador

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Best practice 1: Designing & building a “falla”

What is a “falla”?

Fallas is a Valencian tradition that became Intangible Cultural Heritage by Unesco in 2016. https://ich.unesco.org/en/RL/valencia-fallas-festivity-00859

The Valencian FALLAS festival from 14 to 19 March is a celebration of rituals and traditions involving the creation and the destruction by fire of a central element called the "falla" monument. Fallas Commissions in each neighbourhood create a large-scale monument or "falla", around which rituals are performed.

The "falla" is an ephemeral construction built over a period of various months leading up to the festival by Fallas artists and craftsmen (painters, sculptors and carpenters) and it is burned to ashes in a bonfire on the evening of St. Joseph's Day, March 19th, symbolising the coming of Spring. The “falla” monument itself has a satirical character allowing for social, cultural and moral criticism.

The cultural meaning of the burning of the monument is a form of purification, Spring cleaning and social renewal. Caricature figures called “ninots” included in the “falla” act as scapegoats or sacrificial lambs of Valencian society. Their destruction by fire symbolises the renewal of social life. This element acts as an identifier that helps Valencians to reinforce social cohesion, at home and wherever they settle as emigrants. It gives them a sense of identity of which they are proud. The artistic "falla" monument promotes communication and dialogue amongst citizens.

Proposal - “the lighthouse of the refugees”

Following the Valencian tradition, every year a **multidisciplinary project** is developed in our School while building our yearly “falla” monument in IES CID. This project involves all the departments at school, History, Economy, Valencian, English, Technology, Art, Music, and Maths.

Due to the COVID-19 pandemic, the last project we developed was in the school year 2019 – 2020.

The monument itself was a huge lighthouse, the patio represented evil and many coloured boats were made to symbolically create the traffic through the Mediterranean, migrations and reception (Picture 2).The whole project included several phases from the preliminary investigation of the various subjects to the practical realization of the falla.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Picture 2. Coloured boats

METHOD

The **main objectives** were:

- **To promote values of tolerance, respect, and equality**
- **To know the causes of migratory movements at present**
- **To appreciate the fallas and their artisan processes which are Intangible Heritage of Humanity**
- **To plan a project and get to know its phases and procedures**
- **To work on an artistic creation from volume and space**
- **To apply colour relationships with an aesthetic criterion**
- **To create texts to accompany the images based on a specific theme**

The **phases of the project** were:

- Creating the necessary structure to make the "Falla",
- Paint finishes, creation of three-dimensional elements spatial conception (Picture 3),
- Study of Concrete Migrations, the case of the Spanish republican refugees and exiles during the Franco regime,
- Ethical and philosophical implications of the current migratory crisis of the rise of totalitarianisms and fascism to the world,
- Study of the socioeconomic causes of current migrations,
- Elaboration of poetic texts based on the theme of migrations to use in the posters of the "Falla",
- Creation of slogans against xenophobia,
- Music concert to accompany the party of the "Cremà" or burning of the "Falla" (Picture 4).

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Picture 3. Creation of three-dimensional elements spatial conception

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Picture 4. "The lighthouse of the refugees"

BENEFITS

The "Falla" that year aimed at becoming a reflection tool about one of the greatest challenges of our time which is human migration and coexistence in our society, all considered from different áreas (Picture 5). In order to do so, students had to research the current processes of human traffic caused by socio-economic reasons, as well as its philosophical implications and historical or literary background. The framework of the Mediterranean Sea and the north-south axis has fostered cultural exchange, the mixing of cultures and the gathering of traditions and customs since the beginning of human civilization. It was about reflecting and understanding, dismantling myths, and generating values of tolerance in the face of the rise of totalitarianisms and xenophobic movements in the world.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

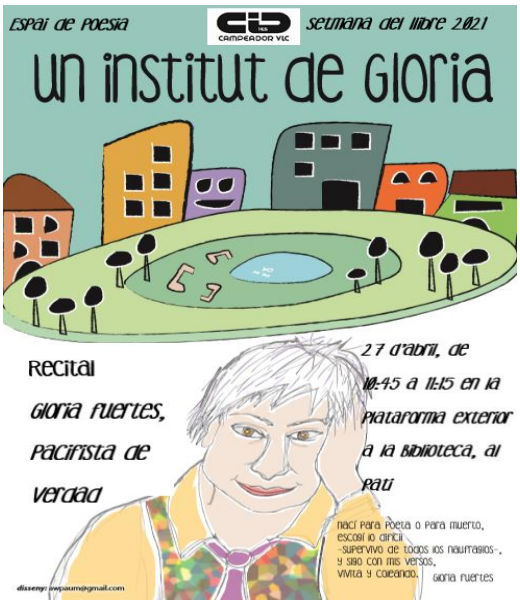
Picture 5. The "Falla"

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Best practice 2: Poetry space

PROPOSAL - POETRY SPACE IES CID 3Faimed at Secondary School Students



Picture 6. IES Cid Campeador

This project was organised by a PE Teacher who coordinated a group of students at our school. It consisted of consolidating a group of students with the concern to participate in our High School and to share the reading, listening, and writing of poetry (Picture 6). The project is conceived as a way of reinforcing the personal communication and creative capacities of our students not from the classroom but from their choice and their desire to participate in the High School and in their neighbourhood, sharing reading and improving their life and the lives of all the people who coexist here and now.

METHOD

The activities organised in the poetry space IES CID 3F were:

- Preparation of poetic recitals,
- Conducting poetic recitals on specific days under a theme or as a tribute to a poet (Picture 7),
- Presentation of poetry books,
- Invitation of poets to participate in the poetic space and the 3 F,
- Poetic reading and writing activities writing workshop,
- Publication within the IES Cid Campeador magazine,
- Collaboration with the coordinator of the Reading Promotion Plan and coordination with the librarian and the teachers.

Co-funded by the Erasmus+ Programme of the European Union
This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

BENEFITS

The project provides shared learning moments for the students who are confronted with new challenging and enriching experiences. This approach reinforces aspects of the students' personalities such as their communication skills, their creativity, their self-esteem. It also improves their confidence and helps them express their emotions. Since these activities are open to the neighbourhood, they also have an impact on the area through collaboration with the Neighbourhood and Cultural Association which offers their facilities for the performance of the students (Picture 8).

Picture 7. Conducting poetic recitals

Picture 8. Performance of the students.

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Best practice 3: Music and visual art

PROPOSAL - Batucada and concerts

Music is another art discipline that is also taught in IES CID. The music department has been organizing for more than ten years different activities. These activities range from concerts in specific moments during the school year in which all the students take part, in batucada or collaborations with theatre groups forming different groups of instruments for each occasion (Picture 9a and 9b).

Picture 9a. Different music art disciplines in IES CID

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Picture 9b. Different music art disciplines in IES CID

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Best practice 4: Photo contest

PROPOSALS - Developing plastic overuse awareness

Another project that combines art and social awareness is a photographic contest in which one of the prizes was reserved for the best photo related to the problem of plastic.

METHOD

The photographs are submitted to the coordinator. Students need to take photos showing the problen of plastics, recycling, reducing its use, etc. After all the photos are sent, students and teachers vote for the best Relearn Plastics photo. The prize consists of a set of school supplies made with recycled materials. The 1st prizes this year has been for the photo “Plastic Genocide” (Picture 10).

Picture 10. “Plastic Genocide”

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Best practice 5: Art against gender violence

Proposal - prevention of gender violence project

IES CID Campeador High School develops a project to prevent Gender Violence with the following objectives:

- **To promote awareness-raising actions of the educational community for the prevention of gender violence,**
- **To analyse and explain sexual stereotypes,**
- **To eliminate sexual stereotypes,**
- **To become aware of the magnitude of the problem of violence against women and the consequences it has on their lives,**
- **To promote the necessary changes in the educational community to prevent violence against women and reject it unanimously.**

METHOD

The way to work on these objectives is through art with the subject of plastic and visual education. Annually on the 25th of November International Day of Violence Against Women, an artistic installation is developed by the students in the Art class under the coordination of the teacher (Picture 11).

All this work is supported by all the other departments which propose parallel activities to help students reflect on the matter. There is also a Coordinator for Equality at school who works together with the Art teacher and complements the project.

BENEFITS

All the students benefit from this annual project, the ones that develop the art work and the ones who can appreciate it when it is exhibited. This work helps students to have a clear conscience of the problem and be aware of the signals that could lead to violence against women. One of the direct benefits has been the creation in the school of a group of students that form the Equality Commission where they meet and discuss on a regular basis about the different aspects related to the prevention of Violence against Women and the promotion of Equality to end this social scourge.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Picture 11. Artistic installation for 25th November International Day of Violence Against Women

Creative thinking learning methods in general

There is a lot of talk about the importance of creativity, but unfortunately, there are still schools where it is unknown. Creativity-based teaching is closer to students and of better quality than traditional teaching methods. It is believed that everyone has creative potential, which should be developed from an early age. Traditional education is more focused on society than on the needs of the child. Unlike this type of learning, creative learning has similarities with learning that is based on full awareness, when the mind is open to new and different when the student is active and thinks while learning so that higher mental processes are engaged [16].

Creative teaching is the key to solving many problems in education because it contains creative and experimental learning methods, which will enable students to develop their own thinking and be original. Every school should have a creative-innovative pedagogical expert, with a very wide range of interests, ambitions, abilities, and creativity.

Creative thinking is a competence for generating diverse, or creative ideas, but also an instrument for evaluating and improving ideas. By strengthening creative competencies, students can effectively solve real problems, but also make significant progress in knowledge and effective expression of imagination.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Creative thinking is a key element of all educational reforms until 2030 because the idea is a key item for solving various problems and challenges, which brings creativity in correlation with problem-solving skills. Numerous psychologists claim that creativity is a skill that can be developed in a school environment with practice and encouragement, so based on that, three types of creative approaches are distinguished [17]:

1. Creativity through design and contribution represents the development of creative experiences and engagements for children/students.
2. Creativity through the process seeks to turn practical activities into unforgettable experiences for students, thus bypassing traditional teaching styles.
3. Creativity through outcomes supports the idea that empowering students through strengthening their skills is a sure path to their fulfilled future.

To develop creativity in students, the teacher must: come to each meeting with students with new scenarios and new teaching materials, constantly learn and improve, always have new ideas for joint activities with students, adapt methodological scenarios with specific students, and follow professional and scientific literature.

Methods and techniques for creative way of living

Creative living can be defined as the ability to understand inter- and intrapersonal relations in a manner that facilitates and improves the quality of these relations. The conditions of a creative way of live include (a) motivation (b) values and character (c) openness to new ideas and new forms of action; and (d) competence developed through apprenticeship, love of the work, and commitment to an appropriate ideal [18]. Methodologies and techniques to promote a creative way of living have been examined in different aspect, context, and ideas. Methods and techniques are usually focusing on community development, aiming to cultivate community leadership, agency, and empowerment in individuals [19].

One method to promote creative way of living is **storytelling**. Promoting and showcasing stories and experiences, social engagement can be cultivated. Stories include emotional risk-taking and psychological creativity and made possible by the holding environment offered to participants. Storytelling can nudge students towards being more open to new ideas and new forms of actions. Storytelling has been used as a method to fight and combat racism and other forms of bullying in schools [20].

The notion and methodology of **living labs** can be applied in a creative way of living [21]. A living lab is an environment to involve participants usually in innovation and development and are regarded as a way of meeting the innovation challenges faced by information and communication technology (ICT) service providers.

Living Labs have thus generated a great deal of interest in the field of ICT in the last few years, and the methodology provided can also be applied in school environments [22].

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Living labs can be used as experiencing and experimenting with difficult subjects in schools, as open innovation platforms to exchange ideas, thoughts and practices, and also to expose different applications and methodologies to users. Classrooms can be used as living labs, utilising digital tools, enhancing motivation to students, and urging them to take new forms of action in different subjects [23].

Methods and techniques for creative way of teaching

Education to active citizenship it's a crucial mission for our society and institutions, but it still has many weaknesses and faces several barriers: first, it usually lacks the kind of narratives that can engage people and also the dimension of personal, direct experience of the problem. It also fails to overcome the psycho-emotional barriers to behavioural change and so on. Art can be the key to overcome these barriers and enable effective communication. Visual art, using more emotive and personally relevant language, may help bridge the divide between scientific information and personal responsibility. The narrative filter allows you to experiment possible scenarios and to more easily bypass pre-judicial resistance and favour displacements compared to consolidated beliefs.

Furthermore, narrative language has always helped to define ethical and value criteria that help guide social life's behaviours. It also promotes cultural experiences, with the aim of changing the way of teaching and learning through the arts [24].

Catterall and others found evidence to support positive relationships between arts and academics as follows:

- Drama develops higher-order language and literacy skills.
- Music enhances language learning.
- Music enhances spatial reasoning.
- Art experiences develop writing skills; and
- Arts experiences develop literacy and numeracy skills.

Some references and best practices can be found as follows:

1. "Application of the Six Hats for Thinking and SCAMPER Techniques: an exemplary case" published in the Mevlana International Journal of Education (MIJE). This methodology and analysis were carried out in the academic year 2012-2013 in the seventh grade of secondary education in the Beykoz district of the Istanbul province (Turkey). The average age of the students is 13 years old. The study group consists of 20 students in total, 10 girls and 10 boys. In this work, an analysis based mainly on observation, open-ended question form was carried out, while the interviews were used as the secondary source of data. The methodology used provides tools to the students such as The Six Thinking Hats and SCAMPER techniques and as a result, it was seen that the students had made an improvement in the comparison of ecosystems in terms of biodiversity and climatic characteristics.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

2. Experiencing the natural environment through AEE. Creation of “little-me” with clay. This work is based on the experiences carried out by Jan Van Boeckel, an expert in art- based environmental learning and aims to expose how an experience through art and nature can connect with a more internal part of us by activating the awareness and commitment to the environment and discovering new skills and aptitudes. One reason for the activity "little-me making" is to explore whether the experience with a natural material like clay somehow improve the feeling of connection with the natural world. Furthermore, knowing whether to develop such a relationship through the process of artistic creation would also bring with it new learning experiences.

3. Theatre as educational tool for environmental awareness. This module presents the research carried out by E. Andrikopoulou and K. Koutroub from the University of Harokopio (Greece). This describes the research carried out and its main results to demonstrate the effectiveness of the use of theatre in environmental education.

On the other hand, a series of innovative tools will be explored and developed where it will be possible to learn step by step the construction of an effective narrative structure which will convey the contents of this project. The use of technology in the classroom could help engage the students with different kinds of solicitations and create an environment of activity-based learning. It makes the content of the classroom more interesting and should make learning fun. For teachers, technology offers an innovative set of resources that they can tap into depending on the needs of the students. Today technology has been giving teachers across the world a number of innovative tools to develop teaching methods, such as:

1. Cross over Teaching: Here, the learning happens in an informal setting such as after-school learning clubs, or educational trips to museums and exhibitions. The teacher can link the contents with the experiences that the students are having. This teaching is further enhanced by adding exploring questions related to the subject. The students can then add to the classroom discussions through field trip notes, photographic projects and other group assignments related to the trip.
2. Teaching through Smart Boards: Smart boards are an effective way to help students and bring class experience to a deeper level of engagement and understanding. It makes the content interactive and visual. These tools transform the teaching experience into an interactive and collaborative experience as the teachers use dynamic multimedia content, to help communicate the topic more effectively to the students and making it a visual, engaging experience.
3. Teaching through flipping Classrooms: Thanks to this technique, the students are made active participants of the learning process by passing the responsibility of learning on them. It requires the teachers to relegate to the role of resource providers and the students themselves take the responsibility of gathering concepts and information. Using various tools of technology, the students are encouraged to build knowledge, fill in the information gaps and set arguments on their own as and when needed. In this way, the students immerse themselves more in the subject, taking more interest and learning better. This method of teaching promotes independent learning.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

4. Teaching through collaboration: Another innovative method of teaching involves encouraging student collaboration for various projects. Teachers can help foster this skill in the classroom by allowing students to learn, study and work in groups. For instance, by assigning group homework or encouraging students to work together on plays, presentations, and other reports. Teamwork is also a very required soft skill by the curricula in the world of labour nowadays. Today, collaboration as a form of teaching is gaining acceptance as a powerful teaching tool where once again the responsibility is on the group of students, where the educators are the ones who play the role of guides, mentors, supervisors for the students. It also teaches students empathy, negotiation skills, teamwork, and problem-solving.
5. Teaching through Virtual Reality: Virtual Reality technology involves helping students learn through interactions with a 3D world. Virtual Reality technology offers students a valuable opportunity to learn in an immersive way that can create a lasting impression on their minds. It makes learning fun and helps the students retain the material for a longer time – all the essential points when considering effective teaching methods in a classroom.
6. Teaching through Cloud Computing: Bring technology into the classroom allows educators to experiment with innovative methods of teaching. The use of cloud computing is one such method where teachers can save vital classroom multimedia resources such as lesson plans, notes, audio lessons, videos, and assignments details on the classroom cloud. This can then be accessed by the students from the comfort of their homes, whenever needed bringing the classroom back to the students with one click. It also ensures that students who have missed class stay always updated. This web tool can help spread digital literacy.

   An eclectic approach allows the teachers to absorb and enhance the best techniques of language teaching methods into their classroom procedures, using them to engage their students better into any storytelling. As seen, the teachers can use a variety of teaching methods. They can implement anything from various resources that is seen as more likely to be useful and efficient for all individual students.

A creative teacher is also someone who can efficiently use the tools at disposal in an eclectic manner depending on the lesson objectives, students' needs, preferences and learning styles, taking into consideration the context and the availability of teaching materials. Here's a list of the principal creative teaching elements and approaches that can enhance the engagement of the students on the topic of the lessons:

- The personal element: Activities that make connections to the learners' daily lives and concerns.
- The curiosity element: Aspects of an activity that are new and different or totally unexpected— It's crucial to make students curious. Activities that concern ambiguous, problematic, paradoxical, controversial, contradictory, or incongruous materials can really stimulate curiosity. The fantasy element can be very useful too.
- Interesting content: Topics that students already find interesting and could want to explore themselves outside the class, such as stories about sports, popular issues, trends, and entertainment.

Co-funded by the Erasmus+ Programme of the European Union
This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

- Individual choice: Activities that give students a personal choice and responsibility.
- Activities encouraging risk taking: It's not always easy to engage young students because of timidness. Then, students should be incentivized by their teachers to take part in whatever classroom activity regardless of their level.
- Activities encouraging original thoughts: It's good always to encourage a personal and individual response to what the class has analysed.
- Challenge: Activities in which learners solve problems, discover something, overcome obstacles and find information.

Best Art Practices in Education

Proposition for best art practices available based on stimulating critical and creative thinking and it is based on real experience. Dance and theatre are taught to secondary school students in artistic gymnasiums. Some elements of the dance and theatre process could be transferred to other secondary education programmes, where this creative field is much underrepresented in the curriculum.

As an example of good practice, we present the Creative Workshops course, within which the so-called Theatre Lab and Improvisation is carried out, which is being implemented in artistic gymnasium programs in Slovenia. The content is summarised from the Creative Workshops curriculum and recommendations for implementation.

Didactic and Methodical elements at dance lessons in Artistic gymnasium programme – Recommendations for implementation

The first period of the Theatre Lab is aimed at releasing tensions and achieving a creative state of mind. This will be achieved gradually through relaxation, play and then improvisational scenes. Similarly, we start with movement improvisation and build on it further with composition, which is a conscious building on creative imagination, selected ideas, and dance materials. One of the strands within the course is dedicated to a more fundamental relationship between dance and music, which can also be arbitrarily placed in the first three years of the course.

In the initial period of the final year, students enter the final phase of the creative process of the programme: from preparation (movement improvisation based on dance techniques) through research (theatre laboratory, improvisation and contact improvisation) to conscious selection and formulation of ideas (composition, interpretation) and shaping (choreography and interpretation). This period is dedicated to the objectification and conceptualization of the student's own material.

In the choreographer-interpreter workshop, students create their own choreographies (original solo) and collaborate with their classmates as interpreters (group choreography). Coordination between the different workshop contents is indispensable in the teaching of this subject. The transitions from one to the other should be logical and build on each other.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Thus, from the theatre laboratory, through improvisation, composition, and choreography, we give a holistic view of the creative process. Improvisation is present in all four years and is used and built upon accordingly, depending on the different stimuli (content, movement) and themes (different media, cross-curricular connections):

- Teachers create situations in which the student is stimulated to react spontaneously to an external or internal stimulus, to react quickly and to make decisions; we establish methods and, with the help of various tasks and instructions, we create space for the search for movement material, the use of props, narrative movement, abstract movement.
- Weight, centre of the body, peripheral attention, creative collaboration with a partner, exploration of space and its laws.
- Links between movement, dance and sound, music, silence; using movement as a basis to find pre-existing musical content or to create own rhythmic and melodic content.
- Improvise on a musical basis and later organise the acquired material into a dance composition according to the structure of the music, rhythm, tempo, melody.
- Improvisation on a voice and sound basis, exploring and creating movement material with the help of the voice, rhythm, dynamics, duration; the influence of the voice on external and internal movement; exploration of the breath as an initiator of movement.
- Conceptualisation of choreographic settings, repertoire, interpretation, building on knowledge of how to design and structure dance.
- Use of different objects, props, and familiarisation with other media.
- The connection between the movement structure captured on video, the basics of dance video.
- Preparing and producing a dance video.

Theatre laboratory and improvisation

The Theatre Lab offers students an active performance experience, developing the skills needed to create theatre scenes through the genre of improvisational theatre. The approach builds on the possibilities of imaginative creation of stage reality, based on a personal perspective. Students gain fundamental acting experience, learn about the stage space and the laws of acting in it, develop stage presence (presence), expand their imaginative, aesthetic, and intellectual horizons, train themselves to be critical-analytical and to create their own theatrical, performance, ideological and aesthetic world. Theatrical performance allows and requires constant commitment and personal freedom, and increases personal capacities for experience on a physical, emotional, and intellectual level.

Content

1. Relaxation: physical and mental relaxation. Fear and tension suppress mental and physical processes and prevent the performer from reaching a creative state of mind.

2. Sound and movement: to trace the spontaneous impulse, follow it and develop it. Develop idea, emotion and action through sound and movement. The exercise encourages risk-taking and the breaking down of one's own habitual patterns.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

3. Introduce yourself: be in front of others, here and now.
4. Games: in them the dancer expresses his/her life experience and connects it to the imagination.
5. Scenes:
a) Silent (imaginary scene): a psychophysical action intended to free the body in action and movement.
b) Contemporary and classical playwrights: analysis of the text, psychophysical action, inner monologue, and subtext. These exercises allow for an organic experience of words and thoughts in connection with the senses). Various exercises are possible in connection with the text, aimed at liberating the text itself, the action, and the movement.
6. Improvisation (verbal and movement): the starting point is an imaginary scene to which to respond; it is a stage of working with the text and a possible approach. This helps the student to develop imagination and inventiveness.
7. Knows the rules of the impro disciplines and knows how to act in them/perform a stage task and compete with other students in an impro competition or in solving a stage task.

In these exercises we will develop students' concentration, knowledge of themselves, others, their surroundings and the wider context. We will emphasise their ability to form their own ideas, the freedom to take risks, adaptability to changing situations and moments, and the removal of stereotypes, mechanics and the development of awareness and conscious action.

Dance and music, movement and voice

This part of the workshop is dedicated to the practical application, exploration and building on the knowledge of the basic musical principles from music lessons to help the participant understand and feel musicality and dance in the body:

- Awareness of movement in relation to breath and voice.
- Express and develop his/her own rhythmic impulse.
- Searches for appropriate musical content on a movement basis (raised in improvisation and composition workshops).
- Connect different musical structures with dance material and create their own dance-music composition.
- Use the musical background to explore and develop a movement sequence.
- Explore the links between rhythm and dynamics in music and dance, and understand the element of time in movement, music and composition.
- Understands music as a complement or enhancement to dance composition.
- Become familiar with the compatibility of basic concepts of music with concepts of dance vocabulary.
- Use a historical overview of music to explore in parallel the historical development of contemporary dance art.

Co-funded by the Erasmus+ Programme of the European Union
This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

IMPROVISATION AND CONTACT IMPROVISATION

Basic guidelines for self-discovery:

- Individual body parts.
- Movement and stillness, different dynamics and contrasts.
- Weight of the body, out of balance.
- Shape.
- Two- and three-dimensionality, levels.
- Directions in space.
- Speed, time.
- Rhythm, melody.
- Energy potential.

The guidelines are the basis for self-discovery and exploration as an individual, duo and group. By gradually introducing exercises in pairs and groups, we develop contact improvisation and its basic elements (tracking, support, pulling, pushing, leading, neutralisation, rhythmic opposition, etc.).

Content:

1. Relaxation and trust: exercises aimed at building responsibility towards partners, a creative atmosphere and alertness.

2. Individual, couple, group: we use a physical form (e.g.: contact between partners, initial position in the room, etc.), the research of a basic guideline (mentioned above) or some other stimulus (literary work, photograph, sentence, word, film, etc.) as a basic guide for the students in these different exercises (depending on the teacher's approach).

3. The senses: they determine the quality of perception and therefore the reaction, which is expressed in movement. Exercises must be given in such a way as to provoke the individual to use the external stimulus as a motivation to move.

4. Elements of movement: processing and exploring space, time, movement, and its qualities.

Composition

Composition as a more complex approach to creation builds on the theatre laboratory, improvisation, contact improvisation and the dance-music workshop. When creating a composition, we consider the elements of construction and the way the elements are worked and assembled:

- Motif, establishing a relationship.
- Repetition.
- Variations and contrasts.
- Apex.
- Proportion and balance.
- Transitions.
- Logical development.
- Unity.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Content:

An example to explore a composition that can be designed for individuals, couples or groups:

1. A basic motif developed into a theme using the elements of construction listed above.

2. Variations of the basic theme:

- Use of features of the action (e.g.: both sides of the body, different parts of the body, additions to the basic action: jumps, lunges, twists, flow, subtraction of parts of the theme, symmetry-asymmetry);
- Use of different qualities (repetition, change of speed, weight, time, flow, contrast);
- Use of spatial features and props.
- Establishing relationships.

3. Repetition: when working with a group, by repeating themes and motifs, we develop aspects of time (simultaneity, canon) and space, technical and aesthetic perfection.

4. Phrasing of motifs, sections and shaping (emphasis on rhythm).

CHOREOGRAPHY AND INTERPRETATION

In this part of the workshop, which is part of the education of a contemporary dancer, we want to give an opportunity to individuals who are interested in choreography. Students who are interested and talented individuals will be able to choreograph their own pieces, while those who are more interested in the role of dancer-interpreter will be involved in the process from the other side.

In this workshop, students work mostly independently. This autonomy achieves the main objectives of this workshop. All the teachers (of dance techniques, workshops, theoretical subjects, as well as external consultants if necessary) are at their disposal with expert advice, guidance, and discussion. The better choreographies are presented publicly at the final event; otherwise, all are performed at internal school presentations. The workshop will also develop the individual's interpretive skills and give the individual the opportunity to apply the skills learnt over the four years in the process and on stage. It is primarily intended for work in the final year of education, as choreographic work requires a complex knowledge and approach. When a student takes up choreography independently, the focus is on:

- Research into the connections between sound, music, and possible accompaniment.
- Conceptualisation of choreographic settings.
- Developing a personal repertoire.
- Experimentation with space, objects, and other media.
- Performance (public or in-house).

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

DANCE AND OTHER MEDIA

Other media can be used to complement the process of a creative workshop at any time. Other media can serve as stimulus, inspiration for further exploration and the use of different approaches and understandings. They can serve to document or experiment, e.g., to show us the created product from other perspectives, to discuss and theorise, and last but not least to keep up with technological developments, to be critical and to analyse.

Sources:

Učni načrt gimnazija: Ustvarjalna delavnica, Umetniška gimnazija – Plesna smer; Modul B.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Module 3 - Methodological guide "Using art with plastics"

General information includes:

- **Transferring knowledge and skills from teachers to students, through new, creative, and real experiences that, in turn, motivate students and awaken them to awareness of problems with plastic. The aim is to nourish the methodology which puts accent on students, their emotions, experiences, ideas.**
- **Defining topics and with it connected areas of general knowledge about plastics; support students to recognize topic in daily life, in their family and social contacts, and to present it through diverse art forms (painting, dance, acting, singing, conceptual performance…).**

Proposing new creative thematic methodologies (based on art and education on the use of plastics) should be based on principles such as: experimentation, experience, creativity development… Also, the methodology should awaken intuition (work on the subject of knowledge in a sensitive way), motivation (looking for ways to present content in an interesting way), the principle of attention to diversity (based on the fact that we are all diverse and provide something basic for group), and the principle of socialization.

The art of recycling

To contribute to the reduction of the plastic waste we generate in our society we propose to give it new uses. Our project will consist of creating art from recycled plastic. All this work is based on sensitivity and environmental awareness, on the need to provide solutions, on the creativity of designing and building useful or just beautiful things as well as on the ability to transform the old and useless into something new and useful.

If we add the knowledge of science and technology to all of this, we can find in waste an inexhaustible source of materials for creating and inventing. There are already many companies that use waste to produce objects, such as lamps, furniture, street furniture, that they sell later, generating work and sustainable and innovative jobs.

EDUCATIONAL LEVELS

This project could be aimed at any level of Obligatory Secondary Education as well as Higher Secondary Education.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

BASIC COMPETENCES

- Social and civic competence related to knowledge of environmental problems and their interaction in society.
- Artistic and technological cultural competence regarding the management of recycling products for the creation of new objects and the reduction of the environmental impact of waste.
- Competence of autonomy and personal initiative linked to the development of capacities to communicate with others and participate in group projects as well as in relation to self-perception and personal construction.

DEVELOPMENT OF THE ACTIVITY

The objective of this proposal is that the students become aware of the value of plastic waste by reusing it and creating different objects from this waste as well as applying to this process their knowledge of physics, technology, and art, thus being able to develop their capacities for invention and creativity.

Students will search the Internet for artisan, artists and others who create or invent things using recycling and waste materials. This will help them jump-start your own ideas, think of possibilities, and think about the resources they will need to get hold of them. At the end of this document there are suggested sites that may be useful. Groups of students can be organized according to interests or also allow proposals from students who want to develop their idea individually.

STEP BY STEP PROCESS

To carry out this project, students will follow the steps of the technological process, steps that they follow in the technology subject that is taught in Obligatory Secondary Education and in Higher Secondary Education. The steps are:

1. IDENTIFICATION
2. EXPLORATION
3. DESIGN
4. PLANNING
5. BUILDING
6. EVALUATION
7. DISSEMINATION

1. **IDENTIFICATION.** Identification is the first stage of **what it is the technological process,** and it determines what is the need that we must satisfy with the technology or product that we want to obtain and what are the conditions that this solution must contemplate.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

We must also think about what I want to achieve with my proposal, what I intend to transmit to others or what new aspects I am contributing with. If it is a team project, it is necessary to give time to reach agreements on what we want to do together.

2. **EXPLORATION.** When we have already identified the problem or need, the information search phase begins, it is a process of research and collection of ideas and data through all possible means: Internet, books, magazines, direct observation, meetings, brainstorming, analysis of existing technologies or products etc. This information that is collected is used to generate more ideas, clarify doubts and concepts, study materials and development techniques, etc.
3. **DESIGN.** This third phase is one of the most important of the technological process since it is the one upon which the foundations of what will be the final development of the product or technology will be laid. The best ideas that optimally solve the problem and adapt to the requirements identified in the first phase are sought. After a few first sketches, a rigorous and serious design, where all the parameters that come into play appear, is prepared. The necessary indications for the development will also be included, always bearing in mind that the ideas that must be selected are the ones which are optimal in terms of solution but also in terms of cost, ease of construction and durability of the final product.
4. **PLANNING.** It includes tasks such as the selection of materials and tools necessary for the construction of the solution. They list the steps to be followed in an orderly manner, the materials and tools that will be used in each of the steps, the time and schedule for project execution, the labour force, the spaces that will be needed, etc. With all this a budget or a process sheet can be prepared. To sum up, it is about clearly identifying the technical, economic, and organizational factors.
5. **BUILDING.** It is a phase in which everything seen in the previous stages is specified in a product or technology. We go from the idea to the real product; through building of the product we have been planning. In this construction it is important to comply with everything indicated in the design stage, especially in terms of time, costs, and materials. During this phase it is necessary to consider the safety regulations. One or two people will oversee making a report of the whole process with photos or video to have everything documented and to be able to use it when needed.
6. **EVALUATION.** Once the product is developed, we must check that it meets the conditions and that it solves the problem seen in phase one, satisfying the needs. In case of any problem, we should go back in the phases, even the design phase to locate the cause of the problem and correct whatever is necessary. It is usually common in complex product construction processes, sometimes it is necessary to return to the design phase several times.
7. **DISSEMINATION.** Once the product is manufactured and verified, we reach the last phase of the technological process. We can now make it known and commercialize it if it was one of our goals. A technical report can be prepared and even published in the press and specialized magazines on the launch of this new product or technology.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

The group or the artist will explain how the idea arose, how it developed, what have been the problems in the process, the results, the level of satisfaction of the creators, the aspects in which they have enriched themselves as a group and as individuals when carrying out this project. In the end all the final products will be exhibited in the school. Some examples of work to be done are decorations, games, and murals (Picture 12 and Picture 13).

Picture 12. Mural

Picture 13. Different decorations

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

MATERIALS NEEDED

1. Containers or boxes to store and separate waste to reuse: bottles, stoppers, cartons, cans, bags, etc.
2. Depending on the project, different tools and materials will be necessary.

MOTIVATIONAL QUESTIONS

- What relationships do you find between the generation of waste and the depletion of natural resources?
- Do all the countries of the world consume the same?
- Are the countries which possess natural resources the richest? Are they the ones that consume the most?
- Does consumption and possession of goods make us happier?
- Do you think that reusing waste contributes to reducing the extraction of natural resources and minimizing energy expenditure?
- Would it currently be possible to promote a culture of reuse in our society to the detriment of the culture of use and disposal?

COMPLEMENTARY ACTIVITIES

1. To create a blog or a space on the centre's website where the different ideas and proposals arising from this workshop will be posted to share them with other centres and interested people.
2. To contact companies that may be interested in this type of product and reach agreements in collaboration with them so that students can apply their knowledge and skills in recycling plastic waste to the world of work.
3. To collaborate with NGOs and associations that are dedicated to the reuse and transformation of waste to exchange ideas and products.

WEBS

www.reciclando.eu
www.reutilizadme.com
www.ecoart-didactic.com
www.floresenelatico.es
www.laollaexpres.com
www.truekenet.com
www.ecoinventos.com
www.drapart.org
www.basurillas.org
www.misslata.com/latas

BLOGS

www.sindinero.orgwww.imaginayrecicla.blogspot.comwww.reciclandoenespiral.com

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Transferring knowledge and skills from teachers to students

The objective is to transfer/construct knowledge, acquire skills, and change awareness and attitude towards use of plastic and pollution on earth.

Teachers will prepare a maximum 10-minute presentation that will show videos and photos and statistical facts about the use of plastic on earth. It is of great essence that the teacher won't give too much information to the students as it is very important to find and **construct** their own **knowledge** rather than spoon feeding.

Students will learn **skills** like teamwork and collaboration through the group work, creativity through the arts crafts and comics, communication through presentations and video, coordinating skills through 3D design, imagination artistic skills and critical thinking through craft and poster.

Upon completion of the methodology described below, it is aimed for students to acquire **ethical consideration** of the pollution and the environment that they live in and change attitude at home, school, and the community towards use of plastic. The importance of early age awareness is greatly needed to educate students and teachers on good practices.

Defining topics and with it connected areas of general knowledge about plastics

Plastic Pollution topics

Below we will describe a project for a class of students.

As mentioned above the project aims to:

- **Construct knowledge** about plastic pollution.
- **Teach skills** such as collaboration, creativity, imagination, communication, critical thinking, technology use.
- **Raise awareness** and **change attitude** towards use of plastics and its effects.

Project/ Methodology

1. **Knowledge Transfer:** Introduction to students of the **actual global issues** with plastic (Scheme 1)

- Global warming,
- Plastic Pollution in oceans,
- Plastic Pollution in Land,
- Plastic Pollution in air,
- Plastic Pollution in groundwater,
- Killing of animals through, short presentation, videos/short documentaries, pictures and statistics.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Knowledge Construction: For each of the introduced global issues, students should use the internet to find how plastics create these problems.

2. **Knowledge Transfer**: Introduction to students about **everyday problems** which could be caused by plastic pollution:
   - Cancer,
   - Birth defects,
   - Childhood development issues,
   - Weak immune system,
   - Cardiovascular Diseases.

   through, short presentation, videos/short documentaries, pictures and statistics.
3. **Personal Engagement**: For each of the introduced everyday problems, students should then find how they may personally be affected in their own everyday life.
   a. Reflection questions for students:
      i. Think about the use of plastic at home. How much plastic is wasted at
         1. Home,
         2. School,
         3. Community,
         4. Your Country,
      ii. What it might be like if you didn't have plastic at home?
4. **Collaboration, Discussion**: Students then form groups and try and identify other cases where their everyday life is affected by plastic pollution and discuss findings with their groups.
5. **Presentation**: Each group is assigned to do a presentation and discuss one of the global pollution issues along with an everyday issue that they find most compelling of all.

Communication: Each group should then present their presentation in class. They can use PowerPoint, Prezi, Canva or Microsoft Sway.

6. **Transfer and use of Skills:** Art Project Finally, each group should then choose one of the **art projects** explained below and present the issues they have **discussed** in the presentation through the art project selected.
7. **Communication**, **Knowledge Transfer:** A Day-event will be organized at the school attended by students, teachers and other people from the community, where all the art projects will be presented. The **Relearn Plastic Day** event**. The event will include:**
   a. Informational posters about the analysed pollution issues.
   b. Booths placed around the school displaying and illustrating the
      i. videos
      ii. comic strips
      iii. presentations of the students
   c. Live performance which will be a combination of the music, art, and dance projects.

Co-funded by the Erasmus+ Programme of the European Union
This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

Art Project[9]

Comics: Create a comic using an online application such as Pixton through which plastic pollution issues will be presented.

- **Music / Song**: Write a song about pollution issue
- **Art Crafts / Plastic Instruments**: Use plastic material to create musical instruments. For example, a plastic flute with a plastic water bottle or drams using big plastic containers.
- **Art / Backdrop:** Design of stage backdrop depicting a pollution issue
- **Dance**: Create a dance performance through which the plastic pollution issue will be expressed.

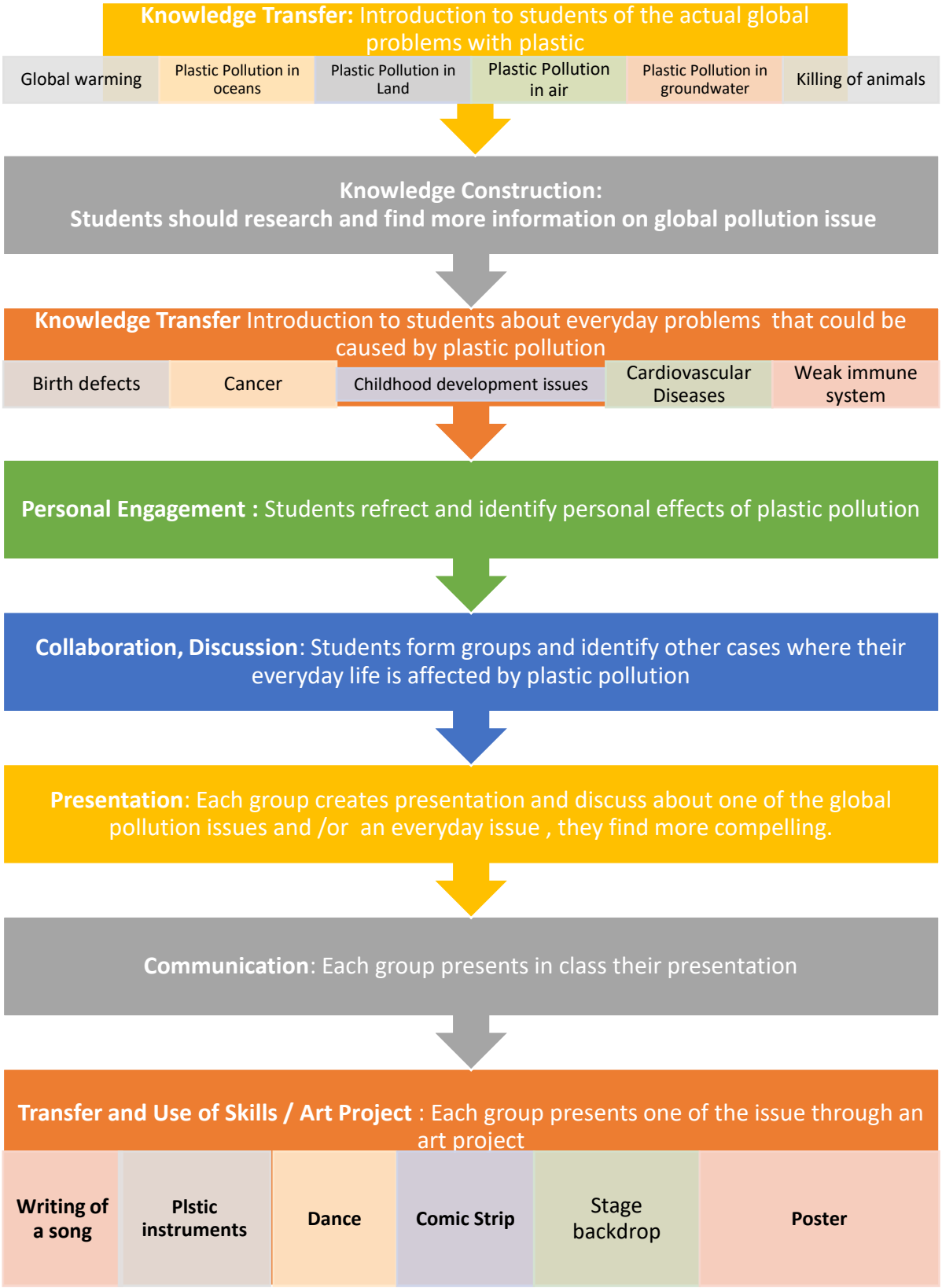
Music Art and Dance:

- **The Music/Song, Art Crafts / Plastic Instruments, Art/Backdrop, and dance project** groups should all work together. The four projects will then be combined to create a performance which will use musical instruments which are created from plastic materials, a song specifically written on plastic pollution and a dance performance with a pollution related backdrop. Students can be shown the STOMP website to get an idea.
- **Poster**: Use applications such as Figma to create different posters on various plastic pollution issues which will be placed around the school during the Relearn Plastic Day as well as an invitation poster for the event.

[9] The benefits of each of the art projects is described in module 2

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.



Scheme 1. Knowledge Transfer

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

References

[1] Marjanovič Umek, L. in Zupančič, M. (2009). Socialni in moralni razvoj v zgodnjem otroštvu. V L. Marjanovič Umek in M. Zupančič (ur.), Razvojna psihologija(525). Ljubljana: Rokus Klett.
[2] Gostečnik, Christian (2016). So res vsega krivi starši? Ljubljana: Brat Frančišek.
[3] Valdes, Irena (2014). Likovni razvoj mladostnika. Vzgoja (Ljubljana) (38-39).
[4] Eisner, E.W. (2002). The arts and the creation of mind. New Haven: Yale University Press.
[5] Burton, J., Horowitz, R., & Abeles, H. (1999). Learning through the arts: Curriculum implications. In E. B. Fiske (Ed.). Champions of change: The Impact of the arts on learning (pp. 35–46).
[6] Hadži-Jovančić, N. (2010). The Role of Teaching Art in the Light of Contemporary Tendencies in General Education. Innovations in teaching, XXIV, 2010/4, 14-22.
[7] Carey, J. (2005). Exploring future media. In J. Flood, S. B. Heath, & D. Lapp (Eds.), Handbook of research on teaching literacy through the communicative and visual arts (pp. 62–67). Mahwah, NJ: Lawrence Erlbaum.
[8] Flood, J., Heath, S. B., & Lapp, D. (Eds.). (2005). Handbook of research on teaching literacy through the communicative and visual arts. Mahwah, NJ: Lawrence Erlbaum.
[9] Bresler, L. (2001). Agenda for arts education research: Emerging issues and directions. In M. McCarthy (Ed.), Enlightened advocacy: Implications for research for arts education policy and practice (pp. 43–71). College Park, MD: University of Maryland.
[10] Bresler, L., & Ardichivili, A. (Eds.) (2002). International research in education: Experience, theory and practice. New York: Peter Lang.
[11] The Arts and Education: Knowledge Generation, Pedagogy, and the Discourse of Learning, Article Information, 32 (1), pp. 29-61. Vivian L. Gadsden, University of Pennsylvania.
[12] https://www.senecaacademy.org/10-reasons-why-integrating-art-is-important-in-school/.
[13] https://www.washingtonpost.com/local/education/teachers-are-using-theater-and-dance-to-teach-math--and-its-working/2016/02/22/61f8dc0c-d68b-11e5-b195-2e29a4e13425_story.html?utm_term=.c7e0d6be99d2.
[14] Fiske, E. B. (Ed.) (1999). Champions of change: The impact of the arts on learning. Washington, DC: The Arts Education Partnership and the President's Committee on the Arts and the Humanities.
[15] Wolf, D. P. (2000). Why the arts matter in education or just what do children learn when they create an opera. In E. Fiske (Ed.), Champions of change: The impact of the arts on learning (pp. 91–98). Washington, DC: Arts Education Partnership and the President's Committee on the Arts and the Humanities.
[16] Dwech, C. (2010). Mindsets, praise, and gifted education: How our messages help or harm gifted students. Paper, 12th International ECHA conference „Perspectives on the Education of Giftedness: from Binet to Today (7). Paris: Institute of Psychology, Paris Descartes University.
[17] Aiamy, M., F. Haghani (2012). The effect of synectics & brainstorming on 3rd grade students' development of creative thinking on science, Procedia – Social and Behavioral Sciences 47, 610–613.
[18] Alamshah, W. H. (1970). Creative living. The Journal of Creative Behavior, 4(2), 123–130. https://doi.org/10.1002/j.2162-6057.1970.tb00851.x.

Co-funded by the Erasmus+ Programme of the European Union
This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.

[19] Brushwood Rose, C. (2016). The subjective spaces of social engagement: Cultivating creative living through community-based digital storytelling. Psychoanal Cult Soc **21,** 386–402. https://doi.org/10.1057/pcs.2015.56.

[20] Burgess, J. (2006).Hearing ordinary voices: Cultural studies, vernacular creativity and digital storytelling. Continuum: Journal of Media and Culture Studies 20(2), 201–214.

[21] Følstad, A. (2008). Living labs for innovation and development of information and communication technology: a literature review.

[22] Niitamo, V.P., Kulkki, S., Eriksson, M. and Hribernik, K.A. (2006). State-of-the-art and good practice in the field of living labs. In 2006 IEEE international technology management conference (ICE) (pp. 1-8). IEEE.

[23] Lacasa, P., Martínez, R., Méndez, L. and Cortés, S. (2007). Classrooms as "living labs": The role of commercial games. In The 5th Media in Transition Conference.

[24] Cerreta, M., Elefante, A. and La Rocca, L. (2020). A creative living lab for the adaptive reuse of the morticelli church: The ssmoll project. Sustainability, 12(24), pp.10561.

Co-funded by the Erasmus+ Programme of the European Union

This project has been funded with support from the European Commission. This book reflects the views only of the authors, and the Commission cannot be held responsible for any use which may be of the information contained therein.