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PEDAGOGICAL RELEVANCE STUDIES



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PEDAGOGICAL RELEVANCE STUDIES

PEDAGOGICAL RELEVANCE OF THE ENVIRONMENTAL EDUCATION IN THE LITERATURE

(based od Romanian and Italian report)

REPORT ANALYSIS OF QUESTIONNAIRE RESPONSES

The report provides a clear insight into the participants' perceptions and opinions on environmental education, the use of digital applications and methods to improve awareness of environmental issues.

Recommendations

1. Strengthening education in schools:
 - Integrating multiple digital applications and interactive materials to support environmental education.
2. Promoting extracurricular involvement:
 - Organizing more practical activities such as volunteering or meetings with experts.
3. Extension of NGO campaigns:
 - Creating more visible and accessible initiatives, including in the digital environment, to attract more participants.

Evaluate the educational effectiveness of online games with ecological content:

Recommendations:

- improving the quality of games, creating a clear methodology, making games more practical connecting theory with practice and promoting games as an educational resource.



To what extent will digital applications focusing on ecological education contribute to forming an appropriate behavior and responsible attitude in a sustainable and environmentally friendly society in the future.

Recommendations:

1. Improving the design of applications
2. Promoting tangible benefits
3. Creating an educational digital ecosystem.

Integrating apps into broader educational strategies, combined with hands-on activities and additional resources. General conclusions regarding the use of digital applications in ecological education.

Most respondents believe that digital applications have a positive but limited impact on the formation of sustainable behavior. However, almost 40% recognize their potential to have a significant impact, suggesting opportunities for their development and expansion.

Digital applications are not perceived as the sole solution for environmental education, but rather as a complementary tool that should be integrated into broader learning strategies.

Future directions and recommendations

1. Developing more effective apps
2. Integrating apps into formal education
3. Promoting positive change.

These conclusions and directions provide a solid basis for improving digital applications so that they play a more active and effective role in environmental education.

How to bring environmental protection education to schools:

1. Including it as a compulsory subject
2. Nature activities related to environmental care
3. „Educaclima” platform



4. Environmental training in the disciplines of STEM
5. Whether as a separate subject or as an optional topic in the school curriculum.

Schools must set an example.

Environmental actions in schools:

1. By implementing various environmental actions in schools, students' behavior changes and they acquire certain habits that then strengthen their environmental attitudes
2. We are witnessing an increasingly significant phenomenon of teenage rebellion and the fight for the environment at the world level
3. Greta Thunberg with her school strike for the climate
4. Global action "Fridays For Future".

EUROPEAN FRAMEWORK FOR THE DIGITAL COMPETENCE OF EDUCATORS

The ubiquity of digital technologies has profoundly changed almost all aspects of our lives: the way we communicate, the way we work, the way we enjoy our leisure time, the way we organise our lives, and the way we source knowledge and information. It has changed how we think and how we behave. Children and young adults are growing up in a world where digital technologies are ubiquitous. They do not and cannot know any different. This does not mean, however, that they are naturally equipped with the right skills to effectively and conscientiously use digital technologies.

National and European policies acknowledge the need to equip all citizens with the necessary competences to use digital technologies critically and creatively. The European Digital Competence Framework (DigComp), responds to this need, by providing a structure which allows European citizens to better understand what it means to be digitally competent and to assess and further develop their own digital competence.



For pupils and students in compulsory education, an ample range of initiatives on European, national and regional levels offers guidelines and advice on how to enable young people to develop their digital competence, often with a focus on critical skills and digital citizenship.

In most European Member States, corresponding curricula have been or are being developed to ensure that the young generation is able to creatively, critically and productively take part in a digital society.

On international, European, national and regional levels, there is consequently considerable interest in equipping teachers with the necessary competences to fully exploit the potential of digital technologies for enhancing teaching and learning and for adequately preparing their students for life and work in a digital society.

One of the key strengths of digital technologies in education is their potential for supporting learner-centred pedagogic strategies and boosting the active involvement of learners in the learning process and their ownership of it. Thus, digital technologies can be used to facilitate learners’ active engagement, e.g. when exploring a topic, experimenting with different options or solutions, understanding connections, coming up with creative solutions or creating an artefact and reflecting on it.

Digital technologies can furthermore contribute to supporting classroom differentiation and personalised education by offering learning activities adapted to each individual learner’s level of competence, interests and learning needs. At the same time, however, care must be taken not to exacerbate existing inequalities (e.g. in access to digital technologies or digital skills) and to ensure accessibility for all learners, including those with special educational needs.

LEARNING AND TEACHING

Digital technologies can enhance and improve teaching and learning strategies in many different ways. However, whatever pedagogic strategy or approach is chosen, the educator’s specific digital competence lies in effectively orchestrating the use of digital technologies in the different phases and settings of the learning process. The fundamental competence in this area – and maybe of



the whole framework - is: Teaching. This competence refers to designing, planning and implementing the use of digital technologies in the different stages of the learning process.

Competences complement this competence by emphasizing that the real potential of digital technologies lies in shifting the focus of the teaching process from teacher-led to learner-centred processes. Thus the role of a digitally-competent educator is to be a mentor and guide for learners in their progressively more autonomous learning endeavours. In this sense, digitally-competent educators need to be able to design new ways, supported by digital technologies, to provide guidance and support to learners, individually and collectively and to initiate, support and monitor both self-regulated and collaborative learning activities.

Teaching	Guidance	Collaborative learning	Self-regulated learning
To plan for and implement digital devices and resources in the teaching process, so as to enhance the effectiveness of teaching interventions. To appropriately manage and orchestrate digital teaching strategies. To experiment with and develop new formats and pedagogical methods for instruction.	To use digital technologies and services to enhance the interaction with learners, individually and collectively, within and outside the learning session. To use digital technologies to offer timely and targeted guidance and assistance. To experiment with and develop new forms and formats for offering guidance and support	To use digital technologies to foster and enhance learner collaboration. To enable learners to use digital technologies as part of collaborative assignments, as a means of enhancing communication, collaboration and collaborative knowledge creation.	To use digital technologies to support learners’ selfregulated learning, i.e. to enable learners to plan, monitor and reflect on their own learning, provide evidence of progress, share insights and come up with creative solutions



EMPOWERING LEARNERS

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Digital technologies can furthermore contribute to supporting classroom differentiation and personalised education by offering learning activities adapted to each individual learner’s level of competence, interests and learning needs. At the same time, however, care must be taken not to exacerbate existing inequalities (e.g. in access to digital technologies or

digital skills) and to ensure accessibility for all learners, including those with special educational needs.

Accessibility and inclusion	Differentiation and personalisation	Actively engaging learners
To ensure accessibility to learning resources and activities, for all learners, including those with special needs. To consider and respond to learners’ (digital) expectations, abilities, uses and misconceptions, as well as contextual, physical or cognitive constraints to their use of digital technologies.	To use digital technologies to address learners’ diverse learning needs, by allowing learners to advance at different levels and speeds, and to follow individual learning pathways and objectives.	To use digital technologies to foster learners’ active and creative engagement with a subject matter. To use digital technologies within pedagogic strategies that foster learners’ transversal skills, deep thinking and creative expression. To open up learning to new, real-world contexts, which involve learners themselves in hands-on activities, scientific investigation or complex problem solving, or in other ways



		increase learners’ active involvement in complex subject matters.
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THE PEDAGOGICAL IMPORTANCE OF ENCOURAGING THE PERSONAL DEVELOPMENT OF STUDENTS FOCUSED ON THE VALUES OF SUSTAINABLE DEVELOPMENT

Students should be encouraged to develop:

- social and communication skills, cooperation and teamwork,
- responsible behavior towards oneself and others in the community, decision-making and planning of education, lifelong learning and professional development in modern society and the world of work
- problem solving strategies.

Personal and social development is based on the need to recognize and critically assess personal and social values as important factors that influence thinking and action, developing responsibility for one's own behavior and life, positive attitude towards others and constructive participation in social life.

Personal and social development is a holistic approach that helps students build personal integrity, recognize their own interests and life calling, develop creative potential and take responsibility for their own life and the sustainable development of society.

With appropriate encouragement, students learn to set realistic goals and achieve them with a sense of personal responsibility. They learn to look at problems from different sides, develop decision-making skills, critically evaluate and express their opinions.

It is important to encourage collaborative learning / teamwork, acceptance of rules, mutual assistance in achieving common goals.



ME AND SOCIETY

The goal is to develop awareness of belonging and one's own role in society, and to understand the relationship between the individual and society.

Students:

- broaden their experiences by connecting, helping and showing solidarity with those who need help
- recognize potentially risky situations in society and develop strategies for protection.
- advocate for a better quality of life in the society they live in, they are motivated to participate and get involved in accordance with their personal needs
- have a critical attitude towards social phenomena and processes, they are empowered to seek and support ideas and solutions for a better world around them.

It is important to develop:

- understanding the interdependence of the individual and society and how to successfully contribute to the community
- learning strategies to protect against potential dangers
- developing a critical attitude towards social phenomena and processes.

SUSTAINABLE DEVELOPMENT

Sustainable development includes environmental, social and economic dimensions and their interdependence. It prepares students for appropriate action in society in order to achieve personal and general well-being.

Sustainable development provides the student with knowledge about the needs of modern times on a global and local level, as well as knowledge about the diversity of nature, the necessity of sustainable management of natural resources, personal and joint responsibilities and rights.

It supports the development of generic skills such as practicality, entrepreneurship, innovation, critical thinking, the ability to adapt to changes and the ability to solve problems.



By applying practical work, students are encouraged to behave like responsible use of natural resources and energy, rational treatment of waste, use of used materials, active work and cooperation in the community.

Learning and teaching this topic seeks to raise awareness and deepen understanding of all issues related to sustainability, helps the student to critically consider possible solutions and ways of acting focused on sustainability, to harmonize behavior in everyday life at school with this, and to nurture skills and traits that contribute to development just society.

The cross-curricular theme of Sustainable Development permeates the entire work of the school and is recognized in the school's curriculum. It takes place in compulsory and optional subjects, class teacher's lesson, integrated teaching, as part of projects, extracurricular teaching, field teaching and extracurricular activities and is connected with other cross-curricular topics and areas of the curriculum.

EDUCATIONAL GOALS OF LEARNING AND TEACHING

1. acquiring knowledge about the diversity of nature and understanding the complex relationships between people and the environment
2. thinking and gaining knowledge about the causes and consequences of human influence on nature, which contribute to the development of creative thinking and problem solving.
3. developing solidarity and empathy towards people, responsibility towards all living beings and the environment
4. active activities in the school and community with the aim of identifying needs, designing appropriate and innovative solutions and concrete contribution to the community.
5. encouraging future-oriented thinking and developing personal responsibility towards future generations.



CONNECTION

Connectivity occupies a central place in sustainable development, because without knowledge about the network of life in ecosystems and their mutual connection in human communities, it is not possible to act sustainably. It is necessary to build awareness of connectivity because it is the basis of understanding the importance of the world's ecosystems and natural resources for achieving the best in human potential and for ensuring a good quality of life. It is extremely important to recognize how ecosystem principles based on connectivity and balance can be applied to the functioning of our society and civilization.

ACTIVITY

The main goal is to empower the individual with knowledge and skills, confidence and empathy, in order to be able to react and act actively in a constantly changing world. Education for sustainable development develops practical skills to achieve quality change and solve problems facing our world. Contemporary events in the world set new goals for the educational system, which are especially focused on the development of critical thinking and re-examination of the functioning of today's societies. Action for sustainable development should be appropriate and based on the understanding of the responsibilities and rights we have in relation to the solidary and careful management of natural resources.

WELFARE

Knowledge and awareness of the complex relationships and connections in ecosystems and human communities and the need for appropriate action in the use of natural resources ensure the welfare and satisfaction of the quality of life for the greatest number of people. Focusing on the whole helps ensure measurable results that are greater than individual actions. Capacity building and empowerment for the spread of well-being in society within the educational process finds its application in teaching about advanced and new economic development models



The realization of expectations is evaluated using appropriate methods, depending on the content and the educational cycle. In the first cycle, the expectations relate to the student's family and the closest environment, so that, in line with the development of the student's abilities, in the higher cycles, the expectations become more and more complex. It is necessary to take into account the development of the student's individual abilities, his preferences and participation in group work.

In learning and teaching, as well as in evaluating the realization of expectations, the students are an active participant. They are active towards themselves and their own development and improvement, they are active in the school and in the context of a comprehensive approach and sustainable action in the daily work of their school and they are active in the local community and society.

In addition to the achievement of goals within different teaching subjects, that is, integrated, some activities are realized in class teachers' lessons or on a project basis, as part of the school's curriculum. When creating the school's curriculum, it is necessary to take into account the existence of opportunities to achieve all expectations, describe the roles of class teachers, professional associates and class councils.

According to all the above and according to the results of the Romanian research, extracurricular activities (volunteering, lectures by experts...) are still underrepresented.

They are also an opportunity to improve information and the creation of attitudes and values by implementing cooperation with the local community and associations in extracurricular curricula. (such as Eko-Karašica), projects...that is, content in which young people are the leaders of activities.



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