

Pedagogical approach - Entrepreneurial Focused Education Based on the Creativity

Erasmus+

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Never Lose Your Soul
Erasmus+ project

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The material is linguistically not reviewed.

BIODIVERSITY - KEY COMPETENCIES FOR SUSTAINABLE DEVELOPMENT - NATURE PROTECTED AREAS - YOUTH

Pedagogical approach - entrepreneurial focused education based on the creativity

Edit by Zdenka Keuc (Slovenia)

Abstract

This report discussed the opportunities with more entrepreneurship in education in nature protected areas (NPA) such as its capacity to trigger joy, motivation, confidence, deep learning, engagement, and feelings of relevancy among Youth. In some extent are focused on job creation, economic success and promising effects on students and society. It was stress that it is important to keep in mind that the field of more entrepreneurial education is really important for NPA sustainable development and better demographic situation of NPA. Non-cognitive knowledge and skills are necessary to highlight in these cases. Putting value creation at the heart of education has been put forward in this report based on key competencies and general educational goals. Eleven steps have been outlined as necessary to take into account in attempts to create a new pedagogical approach. We are aware that this is still regarded as a marginal pedagogical approach spurring much interest but also much confusion among various stakeholders. Too often the area of protected nature is understood as areas where people do not have their own place. They have it. There is tremendous work remaining if we are to succeed in making effective and efficient entrepreneurial education available for nature protected areas and we are aware that the road to achieving such an ambitious goal is still long, winding and risky.

INTRODUCTION

The biodiversity is natural capital, which is the basis for the economic performance (development) of nature protected areas (NPA), but only on the assumption that, above all, the local population understands and supports such development. We asked ourselves at the beginning:

1. Is the planned economic growth something that coincides with the carrying capacity of nature protected areas?
2. How does the planned growth coincide with other factors that affect the social development of these areas?
3. What in this context is the prosperity of local people with an emphasis on young people between 18 and 30 years? What are their development opportunities within the development strategies adopted at the national and local level?

In all three countries (Uganda, Slovenia and Romania), we found that the nature protected areas are characterized by an unfavourable age and education structure of the local population, daily migration to work, and seasonal unemployment resulting from various unfavourable socio-economic processes. Therefore, the goal should be to create development opportunities that will retain young educated individuals in nature protected areas with the aim of sustainable management of these areas. Our starting point is that the best guards of biodiversity are locals who through decades and centuries have been able to maintain their natural treasures. Despite the emphasis on the main objective of preserving biodiversity, namely the conservation of animal and plant species and habitats, this is not understood as a "renaturation", that is, the restoration of the wilderness, but development in which also young, highly educated individuals will also see their future life. We want to stress that nature protected areas are also

living places for humans. These places represent also the cultural landscapes, therefore the areas that are vital to the lives of people living there, from the personal point of view and collective identity and ultimately the identity of the place. Cultural heritage is interwoven with natural heritage, which together represents the development potential. Therefore, sustainable management of nature protected sites cannot and should not only include "natural values« but also the values of identity that are not instinctive and do not represent the state of complete but the state of the desired one. They are or are not and cannot be somewhere in between. They do not represent ideals, but they can be good motivational goals. For young people, the possibility of self-actualization is a value, which means above all the possibility of gaining employment and acting in conjunction with phrases such as "social life", "work, and »»freedom,«» knowledge »,« reputation in society, success in profession, power and influence".

THE ROLE OF EDUCATIONAL SYSTEM IN NATURE PROTECTED AREAS

What role does the educational system have in nature protected areas (e.g. national parks?) The answer is simple - the school system must support young people's survival skills. Therefore, we were focused our attention primarily on the living and working conditions of young people, mostly a generation born after 1990. Different descriptions can be found in literature for this generation, but a common denominator is that they are young people who grow up using the Internet, various social networks and the daily use of information and communication technology; they are more environmentally aware than previous generations aimed at results and success; the downward hierarchy does not suit them; the possibility of personal expression is set high on a scale of values, their responses are quick. The generation born after 1990 has been putting health in the first place from all hedonistic and moral values, and highly appreciate social life, personal attraction, reputation in society and the surpassing of others (admiration).

What kind of employment opportunities do we offer to Youth on areas of protected nature in Slovenia, Romania or Uganda? No matter how different we are, it is the same in all three countries. Work in tourism and farming. Other economic activities are very limited or practically non-existent. Therefore, there are many problems in national parks starting with basic care (food supply), health care, schooling, additional education, visiting cultural performances, various sports activities, etc. If tourism is highly developed, it will begin to threaten natural conditions/phenomena. If not, it offers very few opportunities for jobs. So, how this situation can be attractive for Youth, especially well education Youth? It's not really interesting. Therefore, they go to cities or even abroad (the case of Slovenia and Romania). In Slovenia and Romania, the situation is critical because of the rapid ageing of these areas and the great shortage of labour during the high tourist season. The situation in Uganda is just the opposite. There is a lot of unemployed (uneducated) people and involvement of the local population in the tourist offer on an extremely low level.

All these facts were included in the implementation of both transnational meetings as well as both youth exchanges. Participants were encouraged to think "out of the box". They had to redefine the role of the school system; under what conditions do young people in the areas of protected nature would like to stay? What should be changed to stop emigration and recognise the value of living conditions in protected areas? How to connect changes with sustainable development?

SHIFT IN LIFESTYLE AND THE WAY OF TEACHING

UNESCO has been promoting Education for Sustainable Development (ESD) since 1992. Global issues, e.g climate change and also demographic trends in nature protected areas urgently require a

shift not just in our lifestyles but also a transformation of the way we think, learn (teach) and act. That is why education represents an essential strategy in the pursuit of Sustainable development goals (SDGs). Education systems must respond to this pressing need not just by defining relevant learning objectives but also learning contents. Introducing pedagogies is not only an integral part of sustainable development but also a key enabler for it. The 17 global Sustainable Development Goals (SDGs) pursued by UNESCO could also be recorded for nature protected areas (see appendix 1). In all three countries involved in this project, the areas of national parks are areas of increased poverty, poor educational opportunities and poor health care. If we want changes, we need different approaches.

In particular we would like to highlight three key competencies which are needed to develop through educational system and pedagogical approach if want to shift the life style and the way of teaching toward the sustainable development.

COMPETENCIES

On the first place, we want to emphasise a **strategic competency** which presents the abilities to collectively develop and implement innovative actions that further sustainability at the local level. Students have to recognize and understand relationships, economic meaning of biodiversity and think how these complex systems are embedded within different domains and different scales and how to deal with uncertainty.

On the second place we put a Collaboration competency which represents the abilities:

- to learn from others;
- to understand and respect the needs, perspectives and actions of others (empathy);
- to understand, relate to and be sensitive to others (empathic leadership);
- to deal with conflicts in a group, and to facilitate collaborative and participatory problem solving.

This competency in connection with an anticipatory competency which enables us:

- to understand and evaluate multiple futures – possible, probable and desirable;
- to create one's own visions for the future; to apply the precautionary principle;
- to assess the consequences of actions; and to deal with risks and changes.

On the third place, we put Critical thinking which is connecting with the ability to question norms, practices and opinions and a reflection on own one's values, perceptions and actions. In a combination of self-awareness competency (the ability to reflect on one's own role in the local community and (global) society), we can develop viable, inclusive and equitable solution options that promote sustainable development for all living beings.

Where is a shift to new approach?

The current educational policy climate emphasizing high-stakes standardized testing, international large-scale assessments and institutional ranking has led to a focus on cognitive competencies only and neglecting non-cognitive competencies. This has led to a narrowing of the curriculum, teaching and learning only for the tests (examinations). However, we realised that students' non cognitive competencies (e.g. metacognitive strategies, self-discipline, self-control, interpersonal skills, cooperation, assertion, responsibility, empathy, perseverance, etc.) can significantly increase academic performance and future labour market outcomes, perhaps even more than cognitive competencies.

THE MAIN STEPS OF EDUCATION IN NATURE PROTECTION AREAS

The (new) approach is based on the following facts:

1. We must say goodbye to the current routine, which does not distinguish between education in large cities and education in nature protected areas (NPA). Curricula are the same everywhere, therefore implementation should be different. How?
2. NPA (e.g. national parks) is by themselves the best learning environments possible. There is no need to build special outdoor space. Learning environment carries many educational and entrepreneurial advantages by itself; it just has to be observed and understood accurately.
3. Observation and understanding is a part of the same process – Learning. Therefore learning must be a process of active engagement with experience. It is what people do when they want to make sense of the world. It may involve the development or deepen of skills, knowledge, understanding, awareness, values, ideas and feelings or an increase in the capacity to reflect. Effective learning leads to change, development and the desire to learn more. This is the way how to must be organised.
4. Teachers might look for evidence that knowledge and understanding have improved as a result of using informal, out-of-school contexts but we believe that this may be missing the main point. The main changes come about in terms of pupils' attitudes to school or in terms of the values that they place on the processes and modes of learning that they encounter in contexts beyond school. This is really important when our place for living in NPA.
5. Students (especially mixed group of students) working outside the classroom act as a 'community of learners'. Each community of learners has its own characteristic behaviours and the actions of its members depend on previously established cultural and educational norms. Therefore, the norms of school begin to break down and may cause conflicts, but only if we do not realise that new norms and sociocultural expectations. Intercultural differences are constant in Erasmus+ projects. Learning and acquiring skills in how to work in different environments is one of the crucial goals that we want to develop. Teachers and students have to develop co-operative learning.
6. Working in such contexts allows pupils to express themselves in ways that school does not and richness of pupils' conversations ('scaffolding' of dialogue).
7. For the nature protected areas where we are looking also for job opportunities for highly motivated and skilled students, another aspect must highlight – entrepreneurial opportunities. The entrepreneurial process is located within its environment (Figure 1).

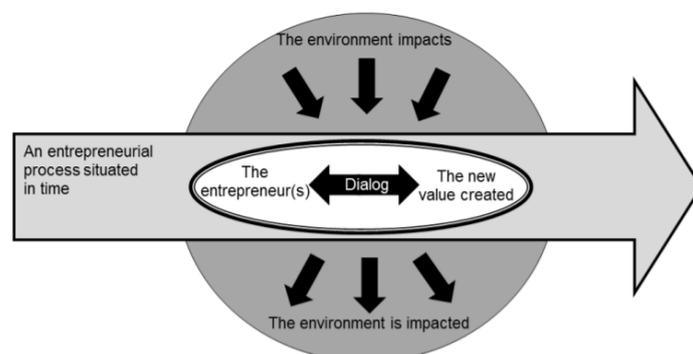


FIGURE 1. The entrepreneurial process located within its environment and time

8. Students have to gain knowledge, skills and attitudes that affect the willingness and ability to perform the entrepreneurial job of new value creation in the place where they lived. We want to emphasize that our approach does not arise from the content-laden and theoretical approach aiming to give a general knowledge »about" entrepreneurship. No, teaching "for" entrepreneurship on the NPA means an occupational-oriented approach aimed at giving budding students the requisite knowledge and skills. Teaching "through" means a process-based and often experiential approach where students go through the actual entrepreneurial learning process (learning-by-doing). This approach relies on a broader definition of entrepreneurship and can be integrated into different school subjects in general education.

9. More entrepreneurial focused education in NPA is really relevant and important for job creation, economic success, innovations in nature protected areas. It is not obvious on the first look but creativity is the main source of joy and pride for people; employee creativity and joy are essential for the performance of new or existing organisations. → The economic wealth of people correlates with the happiness of its citizens. → People can make a difference in society, and marginalized people can achieve economic success. → Corporations can collaborate with small social entrepreneurship initiatives to create social value and addresses problems in society that the market economy has failed to address. 10. Pedagogical approach in nature protected areas must be more focused on the following relationships: **problem-opportunities; authenticity - local specific; artefact creation - iterative experimentation; real world - (inter)action**, and value creation to external stakeholders, team-work, work across extended periods of time, newness (initiative) and risk of failure!

Students can ask themselves questions such as what are the benefits of the area where I live? What resources do we have? What are the values of the people I am with? What values allow for progress and development? How can we connect with each other to achieve better welfare? Who are the people who will be the customers of our services/products? How much can we offer and how much do we need to use to realise our idea? Who can help us? What are the weaknesses of our idea? Where are the traps? What can we ask a prospective customer today? How can we test our guesses on real people outside school? How can we expose ourselves to the risk of being proven wrong?

Marketing skills can for example be necessary for a start-up in need to market its newly developed products, but also for a student wanting to get class-mates excited about an entrepreneurial project in order to get them to contribute to its development.

11. Pedagogical approach in nature protected areas must be oriented on learning-by-doing. Human activity leads to two main outcomes; "externalization of activity into artifacts" and "internalization of activity and gradual formation of mental actions", i.e. construction of new mental abilities. Here, externalization is the resulting value creation and internalization is the resulting deep learning. There are striking similarities between many of the outlined entrepreneurial competencies and what researchers label "non-cognitive factors", such as perseverance, self-efficacy, learning skills and social skills. Cognitive competencies are easy to teach and evaluate, whereas non-cognitive competencies require learning-by-doing and are more difficult to evaluate.

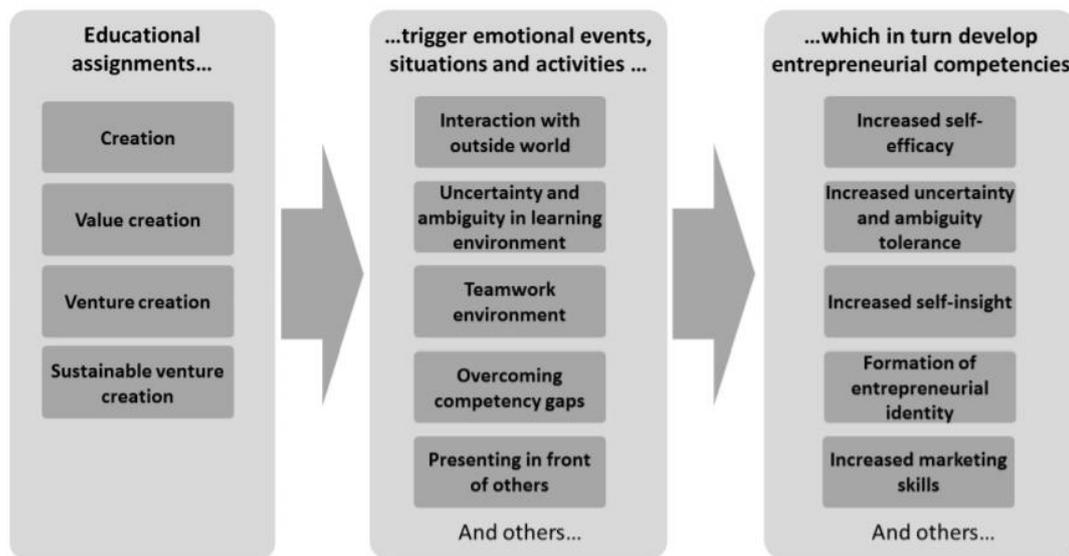


FIGURE 2. A model of education approach and its outcomes

Many challenges haven't been discussed yet; a lack of support, time and resources in educational institutions, assessment difficulties for both teachers and students, cost implication, etc. The Erasmus + project we have carried out are just proof that the proposed model can work (see Pilot Projects).

Let's take a look at some examples from which we can see that education of young people in NPA must be focused at very early stages to their own employable abilities. All of these examples follow the scheme described above:

Problem can be a trigger for a creative idea. → It is essential for the performance of new or existing organisations → Economic wealth of people correlates with their happiness. → People can make a difference to society, and marginalized people can achieve economic success → Corporations can collaborate with small social entrepreneurship initiatives to create social value and addresses problems in society that the market economy has failed to address.

EXAMPLE 1 - SLOVENIA

The Ormož lagoons represented an abandoned and devastated industrial area. The efforts of the local community and DOPPS (NGO) have led to the reconstruction, which today represents an example of protected monumental and cultural heritage and a very good example of nature conservation practice. It is an outdoor classroom, inviting to research, learning, relaxing and offering employment to four highly educated young people. In its own right, this is an inspiring example of cooperation between the industry and non-governmental organizations. But how did it start? Mostly by an entrepreneurial idea how to convert a problem (devastating nature) into the opportunity (conservation park). Birds on their journey from the north to the south of the planet Earth need corridors in which they can find food and water and place for rest. Ormož lagoons are today associated with many educational and research institutions around the world.

EXAMPLE 2- UGANDA

At the first meeting in Slovenia, participants from Uganda thought about which entrepreneurial idea can be supported by their local community and, in the long run, how can contribute to the development of the area and the well-being of people. Because this area is extremely poor, with high unemployment rates and children who do not attend school, they have been thinking about how to connect all three aspects together: food - more self-sufficiency - more children in school. The entrepreneurial idea that already being realized is as follows: they bought a female pig (June 2018), which delivered seven puppies. Each of the seven puppies was donated to families, who did not have the funds to put their kids to the school, but under two conditions:

1. at least one child must regularly attend school and
2. pig can only be eaten when they have puppies. They must keep one puppy for further breeding; others must give away to families like themselves.

The project resulting (June 2019) in:

- 32 families have pigs (with them a natural fertilizer for agriculture);
- 32 children more are included in the regular school system
- 32 families have meat on the table for at least one week a year.

People began to associate themselves with small cooperatives with the production of different items made by natural renewable sources. They opened a tourist camp, where provided only locally produced food and locally made souvenirs.

EXAMPLE 3 - ROMANIA

The Commune of Vatra Dornei was affected by migrations, especially after the closure of the mining sector (1980-2000). Mostly young people left the area and the Commune was witnessing the departure of qualified young people. Those who wanted to return to their native place could not find suitable jobs according to their qualifications and skills. The locals were mostly employed in agriculture, especially animal farming. Idea: Establishment of small companies or a cooperative to process milk at the Commune-level. Because the area is rich in forest fruit, herbs and mushrooms they incorporated these products to the final offer. Because the products were high-quality they sold them quickly and on this basis, several tourist farms were opened. The offer was slowly enriched with hiking activities (hiking, horseback riding) and, finally, with the help of European funds, an info centre was opened. Calimani info centre represents not only the possibility of good employment but also the development driver of the entire area and job opportunities for Youth.

ADDITIONAL ACTIVITIES PLANNED AFTER THE COMPLETION OF THE PROJECT

Written by Ramona Darie (Romania)

After the end of EU funding, teaching and research activities will continue under teachers' guidance. Thus, the activities included in the sustainability plan aim at achieving the following objectives:

1. The promotion of a sustainable lifestyle among students by connecting them with nature and by establishing a man-nature relationship based on respect;
2. The responsible use of resources and the identification of natural energy sources (solar energy, wind energy) in accordance with the status of protected natural areas;
3. The development of ecological concepts among students for the conservation and preservation of biodiversity within protected natural areas: the diversity of ecosystems, both of the biotic and of the abiotic components; the interdependence of the elements in an ecosystem and the types of relations established between the component elements;
4. The inclusion of outdoor approaches in the instructive – educational process of students, with the purpose of providing meaningful lifetime learning;
5. Extra time spent in nature, which will help students to observe and explore natural ecosystems and to actively engage in protecting and conserving natural areas.

In order that the partner schools involved in the project should achieve these objectives, formal and non-formal teaching activities will be carried out, which will involve as many students and teachers as possible.

Thus, each school's programme will include ecological education activities, which will be carried out inside the school as well as outdoors, in protected natural areas. In the ecological education clubs in the school, neighbouring protected natural areas will be analysed by using the products developed within the project, in collaboration with specialists and under teachers' guidance; this will be done from several perspectives:

- a. Identifying community issues (type of community, types of economic activities, obscure professions, etc.);
- b. Analysing environmental aspects: types of ecosystems, biological diversity, pollution and environmental protection;
- c. Identifying all resources that could ensure the sustainable development of the area: alternative, non-polluting resources and ways of exploiting them;
- d. Finding solutions for the sustainable development of the area: sustainable development of agriculture, sustainable development of tourism, use of alternative materials and sources of energy for house-building.

There will also be transdisciplinary workshops in which topics will be approached from several points of view; for example: "Needs and Resources: Use, Exhaustion, Finding New Resources" – students will be grouped according to their inclination towards one of the subjects addressing this theme; alternatively, some functional models will be created by using innovative technologies, and new alternative materials which we can be used as building material will be discovered.

The activity programme will also include lectures on topics of general interest: capitalization of protected natural areas, green energy, trophic chains, nature-friendly development, etc.

Ecological activities will be carried out in collaboration with local authorities / associations / NGOs, and will include: *sanitizing* some areas and *planting* trees / flowers.

Ecotourism activities carried out on holidays will include thematic routes, *observation of the diversity of ecosystems*, the attainment of a phyto-pedo-climatic connection, aspects of human intervention...).

The products developed within the project are useful materials for all the teachers interested, both for regular classes and for extracurricular activities.

APPENDIX 1 - THE 17 SUSTAINABLE DEVELOPMENT GOALS (SDGS) ARE (UNESCO, 2017)

1. **No Poverty** – End poverty in all its forms everywhere.
2. **Zero Hunger** – End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
3. **Good Health and Well-Being** – Ensure healthy lives and promote well-being for all at all ages
4. **Quality Education** – Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
5. **Gender Equality** – Achieve gender equality and empower all women and girls
6. **Clean Water and Sanitation** – Ensure availability and sustainable management of water and sanitation for all
7. **Affordable and Clean Energy** – Ensure access to affordable, reliable, sustainable and clean energy for all
8. **Decent Work and Economic Growth** – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
9. **Industry, Innovation and Infrastructure** – Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation
10. **Reduced Inequalities** – Reduce inequality within and among countries
11. **Sustainable Cities and Communities** – Make cities and human settlements inclusive, safe, resilient and sustainable
12. **Responsible Consumption and Production** – Ensure sustainable consumption and production patterns
13. **Climate Action** – Take urgent action to combat climate change and its impacts
14. **Life below Water** – Conserve and sustainably use the oceans, seas and marine resources for sustainable development
15. **Life on Land** – Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss
16. **Peace, Justice and Strong Institutions** – Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels
17. **Partnerships for the Goals** – Strengthen the means of implementation and revitalize the global partnership for sustainable development