

University of Sopron Faculty of Forestry  
Roth Gyula Doctoral School of Forestry and Wildlife Management Sciences  
Forest and Environmental Pedagogy Program

Theses of Doctoral (PhD) Dissertation

Designing „Human in nature” curriculum

Author: Bálint Lampert

Supervisor: Dr. habil Mária Kováts-Németh CSc

Sopron

2020

If the most important experience of the research tasks performed in the doctoral dissertation could be formulated in one sentence, this would be said: *the key to the solution is the human*. Whichever field of science professionals try to approach environmental problems, they always come to the conclusion that for real change, people would have to change. Those people who are illustrated with the three Ss (stupid, short-sighted, selfish) by Vida (2001:112) should be changed so that humanity could find its place in the biosphere. They should be made unselfish, long-sighted, and smart. Although natural and engineering sciences have done a lot against the first two Ss (short-sighted and stupid), it is much harder to change selfishness. Changing human behaviour is primarily a field of psychology and pedagogy, therefore environmental and sustainability issues *cannot be approached solely from natural and environmental sciences as well as engineering sciences*. (Kováts-Németh Mária, 2011:181)

## **1. The Aim of the Research**

The aim of my doctoral dissertation is to compile a curriculum-type curriculum promoting education for sustainability, which provides sample for both curricular and extra-curricular educational activities.

During the compilation of the curriculum, my aim is to select and elaborate those topics that can be taught in primary education by using project method and can be incorporated into the local curriculum of the schools in accordance with the possibilities provided by the Hungarian curriculum regulations.

When compiling sustainability projects, I consider the curriculum contents to be accessible and applicable in e-learning framework and supported by virtual educational spaces to support the collaborative work among pedagogues who are distant from each other but committed to sustainability and environmental education.

## **2. The Hypotheses of the Research**

1. Neither the National Core Curriculum (2012) nor the Environment and Nature Study framework curricula provide sufficient recommendations for the application of project method. The methods and contents recommended in development tasks do not encourage activity-oriented, experience-based curriculum elaboration.
2. The curriculum content and tasks of the new generation Environment and Nature Study textbooks used in grades 1-6 do not sufficiently help the implementation of project works.
3. The curriculum project work primarily takes place through students' specific activities in nature, therefore its result is the value-preserving and responsible action.
4. The "Human in nature" curriculum contributes to enriching children's knowledge of wildlife through the projects in nature; it promotes the protection and the appreciation of nature, the preservation of natural values by developing their positive attitudes. With the "*Human in nature*" curriculum I contribute to the significant development of the environmental awareness of 6-12 year olds.
5. The "Human in nature" curriculum contains close-to-life and practice-oriented forms of curricular and extra-curricular activities, and is an important aid for instructors and teachers.
6. The digital curriculum "Together for the environment 2.0", which was made based on the "Human in nature" curriculum, can be used as an educational aid.

## **3. Research Methodology**

*Literature elaboration:* I studied the literature of environmental pedagogy from 1995 up to now.

*Document analysis:* I elaborated the Public Education Act, I investigated the National Core Curriculum from the viewpoint of methodology and content, especially the development tasks of the Human and nature specialisation, as well

as the framework curricula of Environment and Nature Study subjects regarding education for sustainability.

I analysed the results of the Environmental Pedagogy doctoral program; the results of the research materials and the Environmental Pedagogy doctoral program led by dr. Mária Kováts-Németh (2005-2010).

I also examined the new generation Environment and Nature Study textbooks used in grades 1-6 from the viewpoint of content and methodology.

*Observation:* during the forest school project weeks related to the “*Human in nature*” curriculum I observed the children’s activities, the expansion of their knowledge, and the change of their attitudes.

*Analysis:* I examined the effectiveness of the implementation of the “*Human in nature*” project prepared for the Human and nature specialisation.

*Interview:* I conducted interviews with those pedagogues who participated with their classes in the “*Human in nature*” project, and also with those pedagogues who tested the digital curriculum “Together for the environment 2.0” in 3D virtual space.

## **5. Research Findings and Consequences**

Having reviewed the literature, the environmental issues to be dealt with by project method in the curriculum have been determined: loss of biodiversity, deforestation and overconsumption, as students may indirectly face with these problems in their daily lives, thereby we can provide them with real opportunities for action when elaborating the topic.

Having elaborated the literature of environmental pedagogy, it can be stated unequivocally that pedagogics offers the most effective way to change the wasteful, irresponsible human. It is not accidental that the authors of the National Framework Strategy on Sustainable Development (2013:22; 110-113) suggest the improvement of educational level, the transfer of useable knowledge and the enhancement of the standard of education to achieve sustainability.

However, the enhancement of the standard of education is unconceivable without the reform of pedagogy, for which Environmental pedagogy (Kováts-Németh,

2006;2010) offered an educational model, educational principles, educational strategies and methods that can help students develop into responsible citizens.

The ideal human of the curriculum-plan is the responsible human, because the responsible human is capable of self-regulation, that is they can recognize their needs and thus maintain moderation. Having elaborated the literature, it can be clearly demonstrated that human's excessive desire for possession plays a key role in the issues of overconsumption, the extinction of species (loss of biodiversity) and deforestation.

The curriculum-plan includes the constructive way of life model (Bábosik, 2004; Kováts-Németh, 2006) as educational model for the personality development of the responsible person, while project education was selected as the educational strategy.

As a result of the document analysis it can be stated that from the viewpoint of methodology it is essential to significantly supplement and develop the curriculum contents belonging to Human and nature specialisation, especially in case of methods promoting the knowing of personal aims and of those presupposing cooperation, but it is also necessary to provide sample for its more varied application in case of methods promoting independence, creativity and research. The analysis of the selected topics demonstrated that the topics I had elaborated could be incorporated into the effective curriculum system.

The elaboration of the findings of the impact assessments (observations, questionnaires, interviews) carried out contemporaneously with the gradual compilation of the curriculum-plan confirmed that the curriculum-plan is suitable for conveying knowledge about sustainability and shaping environmental attitudes.

In the biodiversity project the students' knowledge significantly improved as a result of the programs, they got acquainted with several practical conservation methods by which they can become active conservationists themselves. The experiences provided during the programs contributed to the formation of their environmental attitudes.

The topic of overconsumption and environmental damage is particularly suitable for shocking children by the destruction of our environment and its consequences. Considering this, making the students see the beauties of their surroundings, besides the problems, was a priority when making the joy-sorrow map, thereby students could notice the beauty which they would have to protect as local residents. The results of the joy-sorrow map show that values that have not been

noticeable to them so far have been noticed (e.g. well-kept gardens) as well as problems that have not been addressed so far (e.g. weedy area).

Questionnaires filled in by students demonstrate that the students' knowledge about the topic of the given project improved as a result of the programs. Based on the responses given and on the interviews conducted with the students, it can be stated that they could successfully understand the importance of each topic. It is a particularly important result that they were able to try out such action options with which thereafter they can actively take part in protecting their environment and achieving sustainability goals. Moreover, the activities providing experiences also enabled to gain the students over from the emotional aspect to take actions for sustainability.

The responses given by the pedagogues participating in the projects demonstrate that the projects included in the curriculum-plan contribute to the formation of the students' environmental awareness and the development of a nature conservation attitude. The programs grabbed the students' attention to sustainability topics, giving them exact examples of action options as a result of which some students even enrolled in environmental study circles.

I believe that it was also proved that new learning environments play their part in expanding environmental knowledge and developing environmental attitudes.

At the end of the research tasks a virtual educational curriculum, "Together for the environment 2.0" was made, which can be successfully applied in distance education based on the efficiency tests, thus significantly facilitating the collaborative work of pedagogues and significantly contributing to the students' motivation. The elaboration of the virtual curriculum is a significant help for the pedagogue, it does not require any special preparations, it relieves them from the burden of various preparations.

## **7. Theses**

1. Environmental problems are caused by adverse effects appearing in *nature, society and economy*, thus their solution *can be achieved by bringing together the sciences*. The key to the solution is the human!
2. The educational values and methodological procedures formulated by the educational model of Environmental pedagogy provide an excellent basis

for designing the curriculum. It determines the main aim (responsible human), provides a point of reference for selecting the methods (self-regulating, learning-facilitating) to achieve the aims and the learning environments (e.g. forest school).

3. By analysing the results of the work of the head of the doctoral programme as well as those of this doctoral dissertation, it is demonstrated that the educational work carried out in the new learning environment and project-based activities, providing experience-based direct experience is essential to the formation of the rising generations' environmental awareness.
4. The elaboration of the environmental problems included in the curriculum-plan with the students is only possible in a project since, due to the nature of project teaching, it can ensure the development of content within the concept of responsible behaviour by forcing students to work together responsibly in a new learning environment to achieve a common goal.
5. Project-thinking is strengthened by the complex nature of the topics included in the "Human in nature" curriculum-plan, where it is essential to know the correlations to be able to solve the problem.
6. The quality of the content of the curriculum in the textbooks is gradually improving as the grades progress, however, the approach of several areas needs to be modernized.
7. The compiled curriculum-plan can be a good addition to textbooks, because it can provide additional information in several places (*the implementation of joy-sorrow map, descriptions of study excursion for forest field practice, aids related to the protection of birds and pollinators*) for pedagogues teaching the subjects, Environment Study and Nature Study.
8. *The projects of the "Human in nature" curriculum-plan* provide the students with such action options with which they can actively take part in protecting their environment and achieving sustainability goals. Experiential activities can be used to affect the students' sense of responsibility from the emotional side, besides cognitive and action side. The responses of pedagogues participating in the projects prove that the projects included in the curriculum-plan contribute to the formation of students' environmental awareness. I believe that it was also proved that new learning environments play their part in expanding environmental knowledge and developing environmental attitudes.
9. There is a lack of authentic and accurate elaboration of the topic of forestry in textbooks. It would be worth recommending to the authors of textbooks

to examine the possibilities of adapting the professional materials published by the National Forestry Association or the forestry training package compiled under the leadership of Mária Kováts-Németh within the frames of the EEOP tender of the Apáczai Faculty titled “Together for the environment”, or the project tasks related to forestry included in the curriculum-plan.

## **8. Recommendations**

- “The principles, goals, development tasks and literacy contents formulated in the National Core Curriculum are embodied in documents and framework curricula developed in several versions according to the specifics of the training phase.”(NAT 2012) Consequently, the core curriculum regulations decisively affect the contents of the framework curriculum, which in turn have an almost exclusive (90%) influence on the local curriculum development of the subjects, Environment Studies and Nature Studies. In case of such an influence, it is necessary to review the central curricula from a methodological aspect to provide more effective educational work and to support students’ learning more effectively.
- The methodological analysis of the curricula demonstrated that from a methodological viewpoint it is necessary to develop and supplement the curriculum contents belonging to the Human and nature specialisation, especially in case of methods promoting the knowing of personal aims and of those presupposing cooperation. Therefore, it is necessary to formulate these methodological proposals for the drafters of the new national core curriculum.
- It was also found that a significant number of methods promoting independence, creativity and research have been applied in case of national core curriculum and framework curriculum development tasks related to the Human and nature specialisation, however, only a little more than half of the applicable methods appear. It should be recommended to expand the existing methodological proposals and to display new methods in the curriculum. It is worth considering to meet the drafters of the new national core curriculum and to present them a proposal package.



- The analysis of the textbooks showed that the quality of the curriculum is gradually improving as the grades progress, but there are serious shortcomings in the approach of some topics (zero-waste, emphasis on biodiversity, the importance of forestry). It is recommended to renew the content of the textbooks by validating the above approaches.
- During the analysis of the contents of textbooks, it was found that the textbooks of Environment Study and those of Nature Study rarely contain recommendations for activities performed in the new learning environment. Moreover, although the topic of forest has been mentioned several times in the textbooks of both Environment Study and Nature Study, none of them recommends participation in the forest school program. The leaders of forest school advocacy organizations (Environment and Nature Protection – the National Association of Training Centres, National Forestry Association) should visit the authors of textbooks to convince them to include the forest school in textbooks.
- The effectiveness of forest schools has been analysed by many investigations including doctoral dissertations. It would be useful to send a package of proposals summarising the results of these to the working group of Eszterházy Károly University Institute for Educational Research and Development preparing textbooks.
- There is a lack of authentic and accurate elaboration of the topic of forestry in textbooks. It would be worth recommending to the authors of textbooks to examine the possibilities of adapting the professional materials published by the National Forestry Association or the forestry training package compiled under the leadership of Mária Kováts-Németh within the frames of the EEOP tender of the Apáczai Faculty titled “Together for the environment”, or the project tasks related to forestry included in the curriculum-plan.
- Schools also need to keep up with the development of digital technology, thus it is advisable to promote the emergence of virtual educational spaces similar to the “Together for the environment 2.0” virtual educational curriculum so that the work of pedagogues working in different parts of the country but in the same field (e.g. environmental education) could be made more effective.

## 9. The Author's Publications in the Topic of the Dissertation

1. Lampert Bálint - Pongrácz Attila - Sipos Judit - Vehrer Adél - Horváth Ildikó(2018): MaxWhere VR-Learning Improves Effectiveness over Clasiccal Tools of e-learning; ACTA POLYTECHNICA HUNGARICA 15:3 pp. 125-147., 22 p.
2. Kövecsesné, Dr. Gósi Viktória; Lampert, Bálint (2018): A környezetpedagógia gyakorlata a tanítóképzésben. In: JOURNAL OF APPLIED TECHNICAL AND EDUCATIONAL SCIENCES / ALKALMAZOTT MŰSZAKI ÉS PEDAGÓGIAI TUDOMÁNYOS FOLYÓIRAT 2018 : 2 pp. 36-54. Paper: <https://jates.org/index.php/jatespath/article/view/37> , 15 p.
3. Lampert, Bálint (2018): Környezeti nevelés virtuális oktatási terekben: a beporzók védelmének oktatása In: Bodáné, Kendrovics Rita (szerk.) Hazai és külföldi modellek a projektoktatásban : Nemzetközi Tudományos Konferencia tanulmánykötete, Budapest, Magyarország : Óbudai Egyetem Rejtő Sándor Könyvüipari és Környezetmérnöki Kar, (2018)pp. 385-396. , 11 p.
4. Lampert, Bálint ; Kövecsesné, Dr. Gósi Viktória (2018): Erdei iskola. In: Nagy, Ádám; (szerk.) A komfortzónán is túl... : A táborozás pedagógiája, szociológiája és kulturális antropológiája Kecskemét, Magyarország, ISZT Alapítvány, Iuvenis Ifjúság szakmai Műhely, Neumann János Egyetem, (2018) pp. 150-168. , 15 p.
5. Kövecsesné, Gósi Viktória ; Lampert, Bálint (2017): „Erdőpedagógia Projekt” a környezeti nevelés szolgálatában = “Forest Pedagogy Project” in the Environmental Education In: Lett, B; Stark, M; Schiberna, E; Gál, J; Horváth, S (szerk.) Tanulmánykötet Mészáros Károly tiszteletére 2017, Sopron, Magyarország : Soproni Egyetem Kiadó, (2017) pp. 65-76. , 12 p.
6. Lampert, Bálint (2017): A biodiverzitás fontosságának megértetése a szoliter méhfajok védelmén keresztül. In: Érték, minőség és versenyképesség - a 21. század kihívásai Komárno, Szlovákia : Selye János Egyetem, (2017) pp. 91-98. , 7 p.
7. Lampert, Bálint (2017): Öröm-bánat térképpel a helyidentitás és környezettudatosság erősítése érdekében. FÓKUSZ - VAJDASÁGI ISMERETTERJESZTŐ ÉS TUDOMÁNYNÉP-SZERŰSÍTŐ ELEKTRONIKUS FOLYÓIRAT:

<http://www.fokusz.info/index.php?cid=1687304874&aid=1993795388&sch=1> , 6 p

8. Lampert, Bálint (2016): Erdőpedagógia a Nyugat-magyarországi Egyetemen és a Weihenstephani Főiskolán FÓKUSZ - VAJDASÁGI ISMERETTERJESZTŐ ÉS TUDOMÁNYNÉPSZERŰSÍTŐ ELEKTRONIKUS FOLYÓIRAT : 145. Paper: <http://www.fokusz.info/index.php?cid=1687304874&aid=1190858451&sch=1> , 11 p.
9. Lampert, Bálint (2015): Földtudományi füzetek gyakorlat-orientált tanításának lehetséges módozatai pp. 251-266. In: Kováts-Németh, Mária; Bodáné, Kendrovics Rita (szerk.) A környezetpedagógia elmélete és gyakorlata, Győr, Magyarország : Palatia Kiadó, 282
10. Lampert, Bálint (2013): Bajorországi erdőpedagógiai tapasztalatok. ÚJ PEDAGÓGIAI SZEMLE 2013 : 5-6. pp. 106-113. Paper: <http://folyoiratok.ofi.hu/uj-pedagogiai-szemle/bajororszag-i-erdopedagogiai-tapasztalatok> , 8 p. (2013)
11. Lampert, Bálint (2013): Miért nem szerepel az erdő az alsó tagozatos kerettantervben? ERDÉSZETI LAPOK CXLVIII : 5 pp. 142-143. , 2 p.
12. Lampert, Bálint ; Dr. Ferenczi, Zoltán\*\* ; Horváth, Gyula (2012): Kisbácsa öröm-bánat térképe. Győr, Magyarország : Palatia Nyomda és Kiadó Kft (2012) , 20 p.
13. Lampert, Bálint (2012): Tantervfejlesztés földtudományi ismeretek témakörben In: ŐRSZAVAK 2012 : 3 pp. 1-9.
14. Lampert, Bálint (2011): A Ravazdi Erdei Iskola 2011-ben. ERDÉSZETI LAPOK 147 : 2 p.
15. Lampert, Bálint (2011): Földtudományi füzetek gyakorlat-orientált tanításának lehetséges módozatai. In: Kováts-Németh, Mária (szerk.) Együtt a környezetért, Győr, Magyarország: Palatia Nyomda és Kiadó Kft, (2011) p. 35
16. Lampert, Bálint (2011): Madárvédelem. In: ŐRSZAVAK 2011 : 12 pp. 1-9.
17. Lampert, Bálint (2011): „Ember a természetben” curriculum tervezése. In: Lakatos, F; Polgár, A; Kerényi-Nagy, V (szerk.) Nyugat-magyarországi Egyetem, Tudományos Doktorandusz Konferencia, Konferencia-kötet Sopron, Magyarország : Nyugat-magyarországi Egyetem (NYME), (2011) pp. 111-113. , 3 p.

18. Lampert, Bálint; Kovátsné-Németh, Mária ; Tomczak, Andrzej B (szerk.) (2011): Combining artistic and ecological education – a sketch from nature – postcards. An artistic aspect in a complex forest school is an integral part of the pedagogical program Poznan, Lengyelország: Wydawnictwo Miejskie Posnania
19. Lampert, Bálint; Kováts-Németh, Mária (2011): Az Erdőpedagógia projekt elmélete és gyakorlata. In: Kovátsné-Németh, Mária (szerk.) Globális kihívások - alternatív megoldások határon innen és határon túl : Globális problémák, Győr, Magyarország : Nyugat-magyarországi Egyetem Kiadó, (2011) pp. 123-132. , 10 p.
20. Lampert, Bálint: Környezetünk a Föld: A természettudományos kompetencia fejlesztése a földtudományi ismeretek segítségével. In: ÚJ PEDAGÓGIAI SZEMLE 61 : 1-2-3-4-5 pp. 372-389. , 18 p. (2011)
21. Lampert, Bálint (2010): Szeptemberi zöld napok – jeles napok In: ŐRSZAVAK;9 pp. 1-2.
22. Lampert, Bálint (2010): Ötlettár a Madarak és Fák napi programhoz In: In: ŐRSZAVAK
23. Lampert, Bálint (2009): Magyalos tanösvény alprojekt. ŐRSZAVAK 2009:12 pp. 1-7.,7
24. Lampert, Bálint (2009): Tanösvények szerepe az erdőbarát szemlélet kialakításában. In: Lőrincz, Ildikó (szerk.) XII. Apáczai-Napok Nemzetközi tudományos Konferencia : 2008 : A reneszánsz értékei, az értékek reneszánsza. Győr, Magyarország : Nyugat-magyarországi Egyetem Apáczai Csere János Tanítóképző Főiskolai Kar, 111-122. , 12 p.
25. Lampert, Bálint (2004): Tantúra a Magyalos tanösvényen pp. 76-99. In: Kovátsné, Németh Mária -Projektoktatás a tanártovábbképzésben, Győr, Magyarország : Nyugat-magyarországi Egyetem Apáczai Csere János Tanítóképző Főiskolai Kar.