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Farm-based Education: A Comparative Study of Romania and Ukraine

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Abstract

Farm-based education represents a relatively new concept for educational research domain. There are many countries where farm-based education activities are well organised, and the results are appreciated by both children and adults. The aim of this paper is to present the results of a survey applied to 303 university students from two universities of Romania and Ukraine, related to farm-based education. The students' majors were Agriculture, Environmental Protection, and Agricultural Management, because they are closely related to farm-based education. As variables were used age, environment, year of study and major. The analysis was realised with a SPSS software, and results show there are no statistically significant differences in age, year of study and environment, between students from Romania and from Ukraine. This aspect of the research may reflect that, though there are two countries with different cultural models, students think in a similar way, maybe as a consequence of globalization. Using ANOVA multiple comparisons, result present that the mean in the students majoring in Environmental protection is significantly different from that of the students majoring in Agricultural Management. The results may reflect the open-mindedness of future specialists in these domains towards farm-based education activities, which encourage learning in children with different behaviours and mentalities.

Keywords: Farm education, agronomy students, majors, cultural differences.

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1. Introduction

Learning is an interdisciplinary phenomenon that supposes behavioural, neurological, phenomenological [26] and socio-cultural aspects mentioned in [27]. Education develops and is influenced by numerous processes. In our research, in which we used the outer environment for educational purposes [22], [29], [23], we observed the positive effects of the environment on children's cognitive processes when they were allowed to use all their senses. [27] Farm-based education (FBE) is a farm-based educational experience in which anybody can participate. Farm-based experiences can be formal, informal, free of charge or fee-based, depending on the approach by the school and the teachers. FBE is a new, effective form of place-based environmental and experiential education. The approach range can be diversified starting from kindergarten children to gymnasium, high school, undergraduates, and adults, all of which could be FBE candidates. Farm education provides all interested people a genuine learning environment that provides the chance to combine academic knowledge and real-world knowledge – people, animals, plants, and specific actions. [27] For adults and children from the urban environment, farm education can be an alternative to teaching about life on a farm and food production. [20] One of the pioneers of outdoor education, Dr Lloyd Burgess Sharp, claimed that pupils cannot truly understand unless they experience what they learn. [14] Experiences and opportunities provided by both crop and animal farms are true learning environments for those who try to understand the different aspects of life, no matter what this supposes: farm-specific activities, gardening, social aspects or such trendy topics as sustainable development. [15]

2. Problem Statement

Education farms are rooted in Northern countries such as Norway, Denmark and Sweden: they started there at the beginning of the 1900s, adopting the American model 4-H Club (Head, Health, Heart, Hand) already operational in the 1890s and that promoted harmonious development in children and youth through "learning by doing", mentioned by Hinshaw, 1935; Reck, 1951, cited by [6]. Education farms promoting FBE apply the 4-H Club principle and particularly the "learning by doing" due to the influence of relevant actions on self-esteem. At present, youth involve in this type of activities due to both their educational aspect and to their relevance in real life. [6]

Farm education helps students learn and experience genuine activities with genuine "actors" (farmers, animals, plants) in a genuine environment in which all the factors influence each other. Thus, if in school, they learn about BIO fruits, on a farm they can see on the sport the relationship between the plantation, the farmer, the fruit trees and the fruits that both the farmer and the students can pick [27]. Involving children in gardening activities can encourage them to not only eat more fruits and vegetables, but also to become more aware of the necessity of protecting the environment. [11, 16]

It is extremely important to underline here the role of the farmer, who needs to be aware of the direct influence of the "educational" aspect of the farm on human resources. [20] Through human resources, educational farms become a "tool" within different projects involving the environment because they are privileged to unite a system of values with educational disciplines. [19] The farmers can make an option to turn their farms from an economic enterprise into an educational one that also takes into account the sociological perspective, sustained in. [3]

Children can learn, from their experience with animals on a farm, how they can feed them, how they can help them if they are injured, how they can build shelters for them and, most important, how parents teach their little ones how to pick, to fly, to defend, or drink, with important consequences in real life for the parent-children relationship. Adults also become more sensitive due to the adult-cub activities because they understand better the environment in which children live [9], given that children cannot love what they do not understand. [10]

Open air activities on educational farms, besides the fact that they help children accumulate new knowledge and skills, generate, according to [13], social benefits due to the interaction with other children, teachers, and farmers and a better cognitive functioning, according to [7] that soothes the impact of stress on children's life.

As shown by studies in the field, there is an increasing demand for this type of educational services [21], as well as a high availability of the farmers to turn their vegetal or animal farms into educational farms [24], [1].

After reviewing farm education-related articles, we found out there is no research aiming at identifying agricultural or life-related university students' attitude towards educational agritourism. This is the reason why we initiated the current research to identify students' attitude toward this concept. They are potential educational agritourism promoters both in Romania and Ukraine.

If [24] applied a questionnaire containing 19 items to 95 farmers, this study presents the results of a revised and shortened version of the

questionnaire (only 8 items) applied to 303 undergraduates majoring in *Agriculture, Environmental protection*, and *Farm management* (future farmers, farm managers or agronomists) from two agricultural universities in Romania and Ukraine. We used the Likert Scale with five steps, the most adequate for the measuring of the subjects' attitude.

The composition of the two samples was as follows: of the 150 Romanian students, 26 were majoring in *Agriculture*, 63 in *Environmental protection*, and 61 in *Farm management*. The Ukrainian sample consisted in 25 students majoring in *Agriculture*, 65 students majoring in *Environmental protection*, and 63 students majoring in *Farm management*.

3. Research Questions/Aims of the research

The goal of this research was to identify the existence of statistically significant differences from the perspective of the perception of educational activities on a farm between the two samples of students attending life-science related universities (BUASVM Timişoara from Romania and NULES Kiev from Ukraine).

To do so, we stated the following research hypotheses:

H1: There are statistically significant *gender* differences of perception regarding farm education.

H2: There are statistically significant *environment* differences of perception regarding farm education.

H3: There are statistically significant *majoring* differences of perception regarding farm education.

H4: There are statistically significant *year of study* differences of perception regarding farm education.

H_0: There is no statistically significant difference between the two samples of perception regarding farm education (Null hypothesis).

4. Research Methods

To reach the goal of this research, we used the t test for independent samples. This type of test is used to calculate if the means of the two sets of scores differ significantly given that they come from two different samples. Results of the t test can confirm or infirm the hypotheses.

To extend the coverage of the t test, we used multiple comparisons with the ANOVA method. Multiple comparisons were used to identify the differences between the means of the three majors used in the research. This can explain which of the pairs of means differ significantly.

The questionnaire was applied between December 2016 and January 2017. The students of the two universities were asked to participate in the research by filling in the 8-item questionnaire. The subjects volunteered for the study; they were asked to fill in the questionnaire during classes after we got the acknowledgement of their teachers, and they were informed that answering the questionnaire involved minimum risk. They were also informed that, should they feel uncomfortable while filling in the questionnaire or should they feel like quitting, no matter the reason, they could do that without any repercussion. Only the students agreeing to take part in the research filled in the questionnaire. They were asked to contact the researchers online should they have questions or suggestions related to the research. They were not rewarded financially for their contribution.

5. Findings

Hypothesis 1 supposes that there are statistically significant differences between the two samples of students (Romanian and Ukrainian) from the perspective of their gender. We used the SPSS Programme to process the results. After applying the t test, there were no statistically significant differences. Thus, we can say that, no matter the gender, the subjects have similar options and attitudes towards farm-based education.

Hypothesis 2 supposes that there are statistically significant differences between the two student samples from the perspective of their environment. After applying the t test, we could not identify statistically significant differences between the Romanian and Ukrainian student samples. We can thus say that students' environment does not influence significantly the choices of the subjects. Though children and youth from the urban environment benefit from more educational resources than those from the rural environment, many traits are influenced by the family and the environment in which they live [2]. Though educational agritourism addresses mainly people from the urban environment [20], the benefits of this type of education are also appreciated by the students from the rural environment who, in most cases, are directly involved in such activities.

Hypothesis 3 supposes that there are statistically significant differences between Romanian and Ukrainian students from the perspective of their majors. In this case also we used the SPSS Programme applying the t test. Results point out that there are no statistically significant differences between the two groups. Thus, we can state that the attitude of the students majoring in three different domains does not differ significantly. Though the curricula of the three groups fifer, they are open to the idea of involving

children and youth in educational activities on farms; moreover, each group responded through the prism of their future profession: agronomists, environmental engineers, or farm managers.

To extend the coverage area of the t test, we used multiple comparisons through ANOVA method. Results explain the differences between environments in the three majoring groups.

Thus, there were significant differences only in item 3, "What aspects do you think are consolidated in children and youth during activities on an educational farm?":

- First point/Response variant 3.1 "*Knowledge about how to prepare feed for the livestock*", an analysis of one-dimensional variant for independent scores showed significant differences between *Environmental protection* and *Farm management* ($F = 3.99$, $p = 0.020$).
- Second point/Response variant 3.2 *"Emotions caused by the contact with the nature"*, an analysis of one-dimensional variant for independent scores showed again significant differences between *Environmental protection* and *Farm management* ($F = 7.14$, $p = 0.001$).
- In the response variant 3.4, *"The desire to make agricultural traditions known"*, an analysis of one-dimensional variant for independent scores showed significant differences between *Environmental protection* and *Farm management* ($F = 6.274$, $p = 0.002$).
- The response variant 3.6, *"Understanding life in the rural area"*, an analysis of one-dimensional variant for independent scores showed significant differences between *Environmental protection* and *Agriculture* ($F = 3.91$, $p = 0.021$).
- The response variant 3.7, *"Understanding the importance of the healthy food and healthy life in the healthy environment"*, an analysis of one-dimensional variant for independent scores showed significant differences again between *Environmental protection* and *Farm management* ($F = 3.96$, $p = 0.02$)
- The response variant 3.8, *"Desire of protecting the environment"*, an analysis of one-dimensional variant for independent scores showed significant differences again between *Environmental protection* and *Farm management* ($F = 3.46$, $p = 0.033$).

Hypothesis 4 supposes that there are statistically significant differences between Romanian and Ukrainian students from the perspective of their year of study. After applying the t test, results show no statistically significant difference between the two groups. For this study, we chose students in the 3rd and 4th years of study, because they are more mature, they have more information regarding their future profession and are able to understand that

they can become actors in the promotion of this type of education and in the transformation of the farms in which they will work into educational ones, given the openness of the farmers towards this idea [24].

Null hypothesis supposes there is no difference between the two samples regarding farm-based education. Results analysis for hypotheses 1-4 shows that the null hypothesis is not confirmed given the partial confirmation of hypothesis 3.

6. Discussions

As far as the information of hypothesis 1 is concerned, results show the lack of information specific to educational agritourism in both genders. Thus, 98.03% of Romanian students chose for item 1,"*What do you understand by educational farm?"* only the response variant "an educational experience on a farm, agricultural-related, for all ages", probably by applying a logical connexion with the question without knowing that it means "a farm entertainment" in the same. [3]

Results parallel the studies claiming that female farmers are able to manage farms particularly when supported by their children or extended families [17], activities that contribute to the increase of self-confidence. [25]

As for hypothesis 2, people from the rural area are also considered beneficiaries of farm education, but in an indirect way, through the development of local economies, through the promotion of local products and culture, and through the support of healthy food among children and youth (supplying fresh fruits and vegetables to school cafeterias through such programmes as "farm-to-school". [28]

As for hypothesis 3, it is necessary to mention that students' majors were selected for this study because of their possible involvement as genuine "actors" in farm educational activities. [27] To get a general view, the questionnaire should also by applied to educational "actors" (pre-service and in-service teachers) to find out their opinions and availability to get involved in farm-based educational activities. [30]

As for the results in the variant 3.1, we need to mention the interest of future specialists to transfer towards the young generation knowledge on the preparation of animal feed to understand the way in which feeding animals has an effect on animal food.

Variant 3.2 explains the positive effects of the environment on children and youth as shown by numerous studies [4], [31]. Developing a positive relationship with the nature, increases the chances to develop a pro-environment attitude in adulthood. [31] Involvement for five days in nature

activities without technology, [29] sustain that improves in teenagers skills in nonverbal emotions.

Variant 3.4 also reflects the wish of the young generation to know and transfer to future generations what is representative for the area and the old technologies used in gardening or food processing. Results confirm research in the field [12], claiming that farmers are for traditional farming.

Variant 3.6 represents the only difference between students majoring in *Environmental protection* and students majoring in *Agriculture,* nothing could be more natural given than the rural area has numerous positive aspects such a clean air, greens, animals, wide areas [5], that charm the children but that also have negative aspects for the youth who perceive the rural area as intrusive and constraining, particularly for the females. [8]

In the variant 3.7, the interest in promoting healthy nutrition in schools to prevent obesity is increasing according to the studies in the field. [1], [28], [13] We can affirm that there are significant differences between students majoring in *Environmental protection* and in *Farm management,* but they are not significantly different.

Variant 3.8 is supported by numerous studies concluding that children and youth are willing to protect the environment after carrying out farm-based educational activities. [22], [18]

For hypothesis 4, results show that there is a wide vision on education and open-mindedness regarding youth education through the connection with real life no matter the curricula of the students. Family experiences could be a possible explanation for the lack of differences in attitude towards farm-based education.

Null hypothesis did not confirm because of the differences between the students' majors.

A possible explanation for the few significant differences between the two student samples could be multiculturality (intensely promoted these last years) and the possibility of testing cultural differences through different educational programmes in Romania Ukraine (Erasmus+) may help the students to have a common vision opened towards activities that support education in a natural environment, closer to real life.

Though the numbers of students per year of study and per majors were very similar, the results may be affected by the fact that students majoring in *Agriculture* was much lower than that of the students majoring in *Environmental protection* or *Farm management*. The authors could ensure that there are no difference in the composition of the groups, but they could not control the number of students involved in the study. A lower number of students equal with those majoring in *Agriculture* would have influenced in a negative way the statistical power.

7. Conclusions

This research evaluated the attitude towards farm-based education in students from two universities: BUASVM from Timisoara, Romania, and NULES from Kiev, Ukraine. Students were selected from majors related to this type of education (*Agriculture*, *Environmental protection* and *Farm management*).

Statistics analysis was done with the SPSS Programme applying the t test for independent samples: hypotheses 1, 2, 4 and H_0 did not confirm. Thus, there were not significant differences in students' attitude towards farm-based education from the perspectives of gender, environment, or year of study.

The single hypothesis confirmed is hypothesis 3 claiming that there are differences in attitude towards farm-based education from the perspective of the students' majors. There were significant differences only after applying multiple comparisons with the ANOVA method between students majoring in Environmental protection and students majoring in Farm management.

8. Acknowledgement

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References

[1] Allen P, Guthman J. From "old school" to "farm-to-school": Neoliberalization from the ground up. Agriculture and human values. 2006 Dec; 23(4):401-15.

[2] Blackwell DL, McLaughlin DK. Do Rural Youth Attain Their Educational Goals? Rural Development Perspectives. 1999; 13(3):37-44.

[3] Canavari M, Huffaker, C, Mari, R, Regazzi, D, Spadoni, R. Educational farms in the Emilia-Romagna region: their role in the food habit education. In Sidali KL, Spiller A, Schulze B, editors. Food, Agri-Culture and Tourism. Linking Local Gastronomy and Rural Tourism: Interdisciplinary Perspectives. Heidelberg: Springer Science; 2011. 73-91.
[4] Cheng JC, Monroe MC. Connection to nature: Children's affective attitude toward nature. Environment and Behavior. 2012 Jan; 44(1):31-49.
[5] Deller SC, Tsai TH, Marcouiller DW, English DB. The role of amenities and quality of life in rural economic growth. American Journal of Agricultural Economics. 2001 May; 83(2):352-65.
[6] Enfield RP. Connections between 4-H and John Dewey's philosophy of education. Focus. 2001.
[7] Evans D. Consuming conventions: sustainable consumption, ecological citizenship and the worlds of worth. Journal of Rural Studies. 2011 Apr; 27(2):109-15.
[8] Glendinning A, Nuttall M, Hendry L, Kloep M, Wood S. Rural communities and well-being: a good place to grow up? The Sociological Review. 2003 Feb; 51(1):129-56.
[9] Harrison GH, Harrison K. Backyard bird watching for kids. Willow Creek Press; 1997.
[10] Hefferon K, Boniwell I. Positive psychology: Theory, research and applications. UK: McGraw-Hill Education; 2011.
[11] Heim S, Stang J, Ireland M. A garden pilot project enhances fruit and vegetable consumption among children. Journal of the American Dietetic Association. 2009 Jul; 109(7): 1220-6.
[12] Hjalager AM. Agricultural diversification into tourism: Evidence of a European community development programme. Tourism management. 1996 Mar; 17(2):103-11.
[13] Jolly L, Krogh E. School-farm Cooperation in Norway: Background and recent Research. Wissenschaftliche Fundierung des Lernens auf dem Bauernhof. 2010; 1:3-18.
[14] Knapp C. Learning from an Outdoor Education Hero: Personal Reflections about LB Sharp. Taproot. 2000; 12(2): 7-11.
[15] Krogh E, Jolly L. Relationship-based experiential learning in practical outdoor tasks. Learning for Sustainability in times of Accelerating Change. 2012; 213-4.
[16] Lautenschlager L, Smith C. Beliefs, knowledge, and values held by inner-city youth about gardening, nutrition, and cooking. Agriculture and Human Values. 2007 Jun; 24(2):245-58.
[17] McIntyre L, Rondeau K. Individual consumer food localism: A review anchored in Canadian farmwomen's reflections. Journal of rural studies. 2011 Apr; 27(2):116-24.
[18] Miller JR. Biodiversity conservation and the extinction of experience. Trends in ecology & evolution. 2005 Aug; 20(8):430-4.

[19] Mizejewski D. Attracting birds, butterflies and other backyard wildlife. Creative Homeowner. 2004.
[20] Ohe Y. Evaluating internalization of multifunctionality by farm diversification: Evidence from educational dairy farms in Japan. Journal of Environmental Management. 2011 Mar; 92(3): 886-91.
[21] Ohe Y. Evaluating operators' attitudes to educational tourism in dairy farms: The case of Japan. Tourism Economics. 2012 Jun; 18(3): 577-95.
[22] Priest S. Redefining outdoor education: A matter of many relationships. The Journal of Environmental Education. 1986 Apr; 17(3):13-5.
[23] Rose KA, Morgan IG, Ip J, Kifley A, Huynh S, Smith W, Mitchell P. Outdoor activity reduces the prevalence of myopia in children. Ophthalmology. 2008 Aug; 115(8):1279-85.
[24] Samfira M, Petroman I. New Opportunities of Valorising Animal Produce: Turning Animal Farms into Educational Agrotouristic Farms. Scientific Papers Animal Science and Biotechnologies. 2011 Oct; 44(2): 516-9.
[25] Schmitt M. Agritourism–from additional income to livelihood strategy and rural development. The Open Social Science Journal. 2010 Oct; 3(1).
[26] Schmeck RR. Perspectives on Individual Differences: Learning Strategies and Learning Styles. New York: Plenium Press; 1988. 1-368.
[27] Smeds P, Jeronen E, Kurppa S. Farm Education and the Value of Learning in an Authentic Learning Environment. International Journal of Environmental and Science Education. 2015; 10(3):381-404.
[28] Story M, Nanney MS, Schwartz MB. Schools and obesity prevention: creating school environments and policies to promote healthy eating and physical activity. The Milbank Quarterly. 2009 Mar; 87(1):71-100.
[29] Uhls YT, Michikyan M, Morris J, Garcia D, Small GW, Zgourou E, Greenfield PM. Five days at outdoor education camp without screens improves preteen skills with nonverbal emotion cues. Computers in Human Behavior. 2014 Oct; 39:387-92.
[30] Weitkamp E, Jones M, Salmon D, Kimberlee R, Orme J. Creating a learning environment to promote food sustainability issues in primary schools? Staff perceptions of implementing the food for life partnership programme. Sustainability. 2013 Mar; 5(3):1128-40.
[31] Wells NM, Lekies KS. Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. Children Youth and Environments. 2006 Jan; 16(1):1-24.