

Relationship of physical education and sport in a mountainous environment together with intelligent specialities

ROSU DANIEL¹, MIROIU MARIA²

^{1,2} University of Pitesti, Faculty of Sciences, Physical Education and Informatics, ROMANIA

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Abstract:

Our national strategy for research, development and innovation 2014-2020, abbreviated SNCDI 2020, is an important document on the basis of which Romania is currently operating scientific research and innovation activities. Based on this document all research and development policies should be prioritized towards to some intelligent development directions such as bio-economy, information and communication technology, space and security, energy, environment and climate change, eco-nanotechnologies and advanced materials, health, patrimony and cultural identity, new and emerging technologies. In this context, the research in the field of Science of Sport and Physical Education should develop its range of scientific activities for the realization of interdisciplinary and multidisciplinary research in relation to the fields of intelligent research. In the present research, an interdisciplinary group of 43 students from several faculties of the University of Pitesti, using different means from Science of Sport and Physical Education Domanin, such is mountain tourism as well as socialization through play and movement, discuss the opportunities of building joint projects in the mountain range. The resulting ideas can be ideas for multidisciplinary projects for intelligent fields related to energy, the environment and climate change, health, as well as heritage and cultural identity.

Key words: intelligent research, multidisciplinary projects, mountain range, domains, sports .

Introduction

Our national strategy for research, development and innovation 2014-2020 (SNCDI 2020) is an document of major importance for research and innovation in Romania, being elaborated by a large number of experts, consulting interested persons and the research and innovation local community, and it is basis of Decision 929/21 October 2014 of the Government of Romania [6]. This strategy aims to pave the way for Romania's research directions on the recognition that European countries have developed national systems and strategies with increasingly sophisticated international interactions [2], adapted to world challenges and set out in key documents such as "Europe 2020" Strategy [7], "An Innovation Union" [3] and "Horizon 2020" [4]. The Romanian strategy in the field of scientific research has been developed as a result of the belief that the knowledge process directly determines competitiveness, requiring continuous reviews. Thus, a critical view on the 2007-2013 strategy made possible the achievement of SNCDI 2020, which is intended to represent an optimal combination of the scientific environment and the current economic environment.

In SNCDI 2020, a particularly important focus is on reorienting development and innovation research policies to those research activities that offer results of economic relevance, also called intelligent specialization. Domains of intelligent specialization are open to any scientific subject based on the fact that they involve:

- stimulating a certain type of economic behavior, with regional or global ambitions and orientation;
- understanding the social impact of science, technology and economic activities in relevant sectors.

Following the extensive consultation process, through SNCDI 2020 there were identified several areas of intelligent research that Romania recognizes as having scientific and commercial potential as follows [6]:

- Bioeconomy - in connection with the huge potential of Romanian agriculture;
- Information and communication technology, space and security - on the basis that it is one of the most dynamic in Romania;
- Energy, environment and climate change - having as a substrate that preserving the environment is a priority of all current policies, given the massive investments to be made in depollution and recycling techniques, in the management of water resources and wet areas. This research direction also focuses on reducing Romania's energy dependence, by exploiting the fossil fuels, diversifying national sources (nuclear, renewable, clean water, smart grids, and increasing consumer);
- Eco-nanotechnologies and advanced materials - a field driven by the international competitiveness of the Romanian automotive industry, the high infusion of capital and the dynamics of exports from this sector.

In addition to the above mentioned intelligence specialization priorities, several priority public domains have been added through SNCDI 2020, such as:

- Health - a field with critical impact on the quality of life and public resources;
- Heritage and cultural identity - consistent with the European Union's key objectives of promoting the cultural and linguistic heritage of each member country, but also to anticipate societal, local or global challenges;
- New and emerging technologies - their adoption is geared toward feeding the public needs, regardless of the direction they may appear.

In this context, the Research Center for Human Performance has proposed and carried out the Project "Adopt a Refuge" with the purpose of coordinating joint scientific, technical, cultural and sports activities within the mountain range. Within the framework of the project, held between May 24-28, 2018, students from several faculties of the University of Pitesti, went to the mountain range of the Fagaras Mountains, preserving and rebuilding mountain trails. The activities focused on "Stan's Valley", the longest tourist canyon in Romania, and the "Window of Kites" peak route, including the refuge with the same name, as part of the mountainous area on the southern part of the Făgăraș Mountains, a tourist attraction internationally, in close proximity of the "Transfăgărășan".

The name of the project has been chosen because that mountain refugees do not benefit from administrators and are supported by the civilized behavior of tourists. The project has the attribute of sustainability, its beneficiaries want to become tourists with high behavior and spirit; on the other hand, the initiator considers that the promotion of such a success could become a model to be followed for other universities, since all Romanian mountain refuges could be "adopted" by students of different universities

Methods

On the occasion of the project, a seminar was held in which the students coming from different faculties were encouraged to express their views on the realization of multidisciplinary projects in the mountain area, in connection with their own specialization and with the fields of intelligent specialization, recognized as priority by SNCDI 2020, Energy, Environment, Climate Change, heritage and cultural identity, and Health. The researches were motivated by the necessity of involving specialists in the field of Sport Science and Physical Education in multidisciplinary projects on complex themes in the sphere of the intelligent specialities mentioned before: energy, environment, climate change, heritage and cultural identity and health. The initiation of the whole project and its co-ordination by specialists in the Field of Science of Sport and Physical Education fully justifies the ability of specialists to engage actively in environmental, heritage or health projects related to the mountain frame and the views of young specialists could represent precious borders of interdisciplinary. Socio-professional variables of students:

Table 1. Profile of project participants by gender and university specialization

	Specialty	Men (15.0)	Women (28.0)
	Informatics	8	5
Real	Computers	2	-
Domain	Engineering	1	6
(33.0)	Chemistry	1	1
	Ecology	3	6
Human	Physical Education and Sport	-	5
Domain	Journalism	-	3
(10.0)	Acting	-	2

The gender criterion of the participants was the first to require a special interpretation.

The project was announced on several social channels and the message with which the initiators attempted to anime the group of participants was directed to the following project attributes [5]:

- socialization - as an expression of an atypical program of students' specializations by which girls and boys are invited to know each other and to socialize through mutual support but also through cultural activities around a campfire;
- volunteering - as an expression of the willingness of participants to participate freely, without any kind of constraint, in acts of rehabilitation of mountain trails and mountain ecologization;
- promoting a healthy lifestyle - the finality of a mountain tourism program practiced by its own forces, in clean mountain air;
- personal development - as a consequence of the crossing of some mountain trails where psychological adaptation is made to complex railroad climbing demands, adaptation to height, overcoming some personal limits and traditional fears over the contact with the heights and fauna specific to the Carpathian Mountains (with connotations of danger for the hypothetical encounter with the bear or the viper).

In these actively presented attributes it is worth mentioning the proactive attitude of the students of University of Pitesti, enrolled in the project, in almost double number, compared to the students. They were

particularly animated by the need for socialization, in close relation with the current period in which young people alienate themselves behind so-called social groups, as well as the current specializations and trends at work or study, characterized by a long-standing activity in contact only with the computer and not with the other people.

The methods used for data collection were: questionnaire, interview and brainstorming. The discussions focused on two key points:

1. the way in which each student has his / her own specialization is found in support of the fields of energy, environment, climate change, as well as health.

2. the themes and general parameters of a complex, multidisciplinary project, in which to find the specialization of each subject.

Results

Based on the answers to the questionnaire, interviews and brainstorming, a single project idea was selected, which seemed to be the most argumentalized by each participant. Table 1 lists the best-reasoned ideas and rank 1, with which project participants supported.

General theme	Secondary theme	Direction of intervention	Justification	Frequency
Environment	Nature preserving	Flora protection	Protection of endangered species, preservation of agri-pastoral landscapes and biodiversity.	3
		Fauna protection	Animal monitoring through IT equipment to protect species and understand their behaviors. Increased attention to the mating season. IT equipment monitoring of human activities for the protection of life habitats.	3
		Stricter legislation	Mountains are a limited resource. Avoiding excessive use of IT equipment in the mountains with long-lasting or irreversible effects on the environment. Protecting the rights of the communities in the mountain area.	1
	Pollution combating	Ecologization	Complex actions, coordination of large human volunteers, volunteering	3
		Garbage administration	Actions to collect and remove garbage from mountain areas. Actions to raise awareness of garbage collection but also of other tourists, using also IT equipment.	3
Health	Compensation of daily overload	Residues from economic activities	Water purity by chemical analysis Soil pollution by chemical analysis	1
		Promoting a healthy lifestyle	Organizing and coordinating human activities promoting mountain-based movement, adapted to health and age, and ameliorating the negative effects of the personal job	3
	Self-knowledge	Personal development	Capitalizing on the native mountain sports potential for recreation and personal achievement. The diversity of mountain sports allows anyone to choose their own adventure, where the level of training and the dangers are in balance.	2
Patrimony and cultural identity	Prevention in mountain human activities	Securing by human support	Developing on-line applications to monitor weather reports, mountaineering status, tourist directions. Patrolling and reporting support for specialized services Rescue type. Risk management through judgment, level of preparedness and personal responsibility	6
		Shows Touristic actions Sports events	Using opportunities from nature to stimulate performing arts but minimize environmental impact. Fight for individual goals never achieved before and setting higher standards.	8
	Development of infrastructure and Culture education	Balanced development Ecotourism, rural tourism, national heritage	Minimizing environmental impact, limiting pollution, additional measures to optimize-limit road and air transport (by helicopter). Reducing power consumption. Capitalizing the national heritage, the civilization of wood exploited with intelligence and creativity in mountain rural settlements. Experiments, observations, critical analyzes based on human behaviors in the mountainous area. Exploiting the native potential of mountain sports to promote social development, cultural understanding	3 7

1. Analysis based on the gender of the participants

Table 2 presents the data extracted and analyzed comparatively on a gender basis.

Table2. The gender criterion in the analysis of the results

Direction of interventions	Men		Women	
	No.	%	No.	%
Conservation of nature	1	6,66	6	21,42
Combating pollution	1	6,66	6	21,42
Compensation of daily overload	3	20	0	0
Self-knowledge	0	0	2	7,14
Prevention in mountain human activities	5	33,3	1	3,57
Realization of events, tourist actions	3	20	5	17,85
Developing tourist infrastructure	2	13,33	1	3,57
Culture and education	0	0	7	25

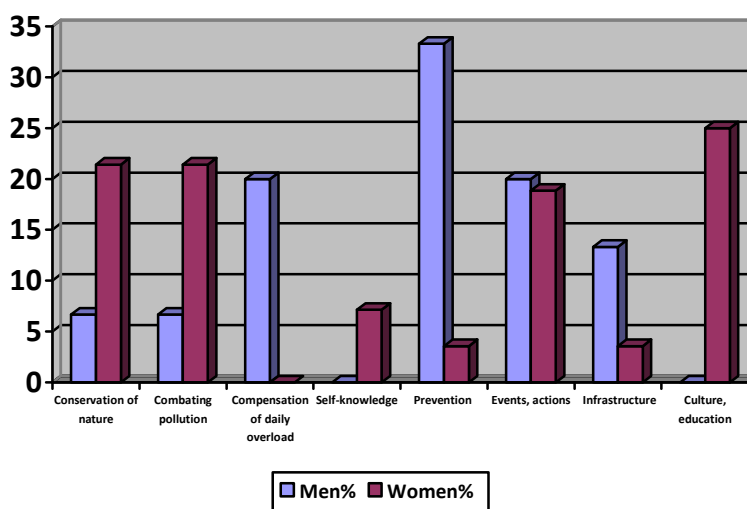


Chart 1. Student approaches to mountain issues according to gender (%)

From Chart 1, some gender differences can be observed with regard to preferred subjects as follows:

- While men have a good predilection for the issues of day-to-day compensation, but also for actions related to mountain prevention, women seem to be more concerned with environmental issues (conservation and pollution). Likewise, women prefer cultural and educational approaches, while men seem to consider them less important.

- A relative similarity of both genres is identified on the component of the organization of mountainous events and actions.

2. Analysis of individual approaches on the basis of the profile of university specialization

Table 3 below compares participants' rank 1 approaches based on individual specialization.

Table 3. Analyze approaches to individual specialization

Direction of interventions	Specializations of real profile (engineering, chemistry, ecology, computer science, informatics)		Specializations of human profile (physical education and sports, acting, journalism)	
	No.	%	No.	%
Conservation of nature	6	18,18	1	10
Combating pollution	7	21,21	0	0
Compensation of daily overload	3	9,09	0	0
Self-knowledge	2	6,06	0	0
Prevention in mountain human activities	4	12,12	2	20
Realization of events, tourist actions	2	6,06	6	60
Developing tourist infrastructure	3	9,09	0	0
Culture and education	6	18,18	1	10

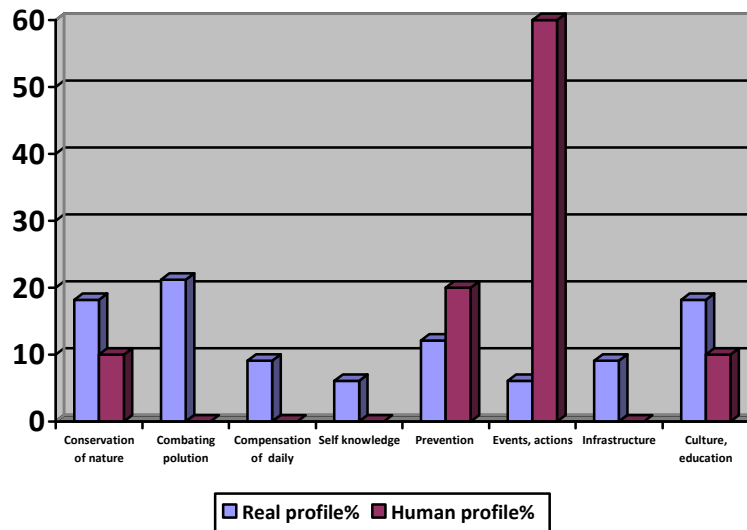


Chart 2. Student approaches to mountain issues according to university specialization (%)

Chart 2 shows a difference in the approach of the mountain on the basis of students' university specialties, noting the following:

- Students of real profiles are more inclined to approach the mountain from the perspective of environmental intervention to the students of human training profiles. The same trend places the benefits of the mountain on the individual from the perspective of clearing the daily activities, but also the achievements of the mountain infrastructure.

- Students of human profiles are more inclined to approach the mountain from the perspective of preventing mountain accidents, but especially of organizing and coordinating mountain events and actions.

Discussion

The involvement of specialists from Science of Sport and Physical Education Domain in mountain intervention issues should also take into account some recommendations inspired by the Tyrolean Declaration from 2002 [1], which suggests a specialized behavior on the following principles:

- accepting the risks of mountain activities and assuming responsibilities;
- linking the proposed goals with the level of training and the necessary equipment available;
- fair-play and honesty;
- respecting mountain codes and lifelong learning;
- tolerance, respect and mutual help;
- protect the wild and natural nature of mountains and cliffs;
- provide support to local communities and their sustainable development.

Conclusions

Specialists in the field of Sport Science and Physical Education are invited to contribute to the development or deployment of intelligent research on the basis of the National Strategy for Research, Development and Innovation 2014-2020.

The profile of Sports Science and Physical Education activities often interferes with the mountainous area, which is an extremely favorable framework for the development of specific, recreational and sporting activities.

This research has highlighted the possibility of interdisciplinary correlation of research activities of the Field of Science of Sport and Physical Education with possible researches in the fields of intelligent research energy, environment and climate change, heritage as well as with health.

Based on the presented data, 43 students from the University of Pitesti with different specializations participated in a socialization and volunteering project carried out in a mountainous environment, with the occasion of debating and the problem of interdisciplinary research from the individual perspective of their own specialization.

A careful analysis of all approaches based on questionnaires, interviews and brainstorming has highlighted multiple approaches to research into mountain areas. Synthesis of these approaches may suggest interdisciplinary topics of approaching the mountain from the point of view of scientific research and intelligent research fields in which specialists in the Field of Science of Sport and Physical Education can easily find their involvement.

Gender and university specialization analysis highlighted possible differences in addressing the topics discussed in relation to the environmental, heritage and health fields.

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