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RESEARCH ON IMPROVING THE WORKING CAPACITY OF THE STUDENTS FROM UNIVERSITY OF AGRONOMIC SCIENCES AND VETERINARY MEDICINE BUCHAREST ACCORDING TO THE SPECIALIZED EXERCISES IN THEIR PHYSICAL TRAINING

Eugenia SOVAREL

University of Agronomic Sciences and Veterinary Medicine Bucharest, 59 Marasti Blvd., District 1, 011464, Bucharest, Romania, Phone: +40213182564, Fax: +40213182888, Mobile: +40722764211, Email: eugeniasovarel@yahoo.com

Corresponding author: eugeniasovarel@yahoo.com

Abstract

Between the physical education and sports education there are both elements of similarity and distinction. The similarity lies in the fact that the main working tool is both physical exercise and also common results that we find in the two activities. Although these two activities have common points they are not identified. The physical exercise, is the resemblance point between the two activities and it is used in recovery from activity in different jobs: animal husbandry, agriculture, veterinary medicine, horticulture. Systematic approach of physical education and sports lesson involves concern for the simultaneous achievement of the mental-motor, affective and cognitive objectives,. The purpose of this paper is to highlight and emphasize the efficiency of physical exercises specific to different specializations in University of Agronomic Sciences and Veterinary Medicine Bucharest to raising the training level of students, reflected in Verification and Evaluation Unitary System " (SUVA). The research was conducted on a total of 77 first year students, attending day courses at University of Agronomic Sciences and Veterinary Medicine. The researches were conducted during one academic year period, comprising first and second semester. The results were analyzed statistically and Fisher's exact test was used to compare the dates.

Key words**:** *physical education, specialized physical exercises, student*

INTRODUCTION

In terms of technical-scientific revolution period, in professional and everyday activity life, physical exercises and movement are greatly reduced, claiming the society increasing concerns in order to establish a rational balance to the body requests allowing preservation of health and work capacity, combating degenerative phenomenon due to limitation of sport activities and those occurring in profession enforcement.

Systemic approach of physical education lesson involves concern for the simultaneous achievement of the psycho-motor, affective and cognitive objectives [3].

The primary means of achieving the cognitive objectives is theoretical training [1].

In the educational system, physical education must solve ,,the bio-psycho-motor skills development and training students the ability to act on them in order to maintain permanent health, to ensure a harmonious physical development and to reveal a favorable kinetic capacity for present and future professional" [2].

Concerns that follow improvement and modernization of contemporary physical education can be grouped into two categories, namely:

- concerns which seek to value the physical education and sport influences in health, combat and reduce sedentary effects and unilateral demands.
- concerns which aims at valorization of educational influences of physical education and sports, directly related to the preparation and training of the workforce, with the objectives of education.

Graduates of the University of Agronomical Sciences and Veterinary Medicine must have higher indexes for correct and harmonious physical development, knowledge and basic and specific motor skills for favorite game. They also must possess higher development indexes for fundamental and specific qualities

required in their profession in order to exercise that at an appropriate level. The graduates must possess physical education techniques to neutralize the negative influences of professional effort on maintaining and physical development. Also graduates from U.S.A.M.V. Bucharest, must be able to practice a favorite sport and other sport activities, with hygienic nature, in college and independent activity.

MATERIALS AND METHODS

The aim of this study derives from its very title: the impact of exercise specific to the specialization, in support of sustainability state of wellbeing in the activity of University of Agronomical Sciences and Veterinary Medicine students and graduates. In conducting the research we formulated the hypothesis that through specific exercises can be register the relevant results for expression of specific motor capacity demands required in future profession, for preventing the attitudinal deficiencies specific to certain labor and for realization of an efficient objectives.

Compared to physical education in secondary and high schools, in establishing the model of physical education of students in higher education, it has to be taken into consideration besides the general factors (age, sex, level of development and physical training) specific factors of the career for which they are preparing.

All these are basics for establishing the objectives of physical education and sport activities in agricultural higher education, each faculty with its own specializations.

1.Objectives with health and nutritional functions, aimed at strengthening the body, proper and harmonious development, strengthening health and increasing the effort capacity.

2.Objectives with educational functions, which determine the volume and quality of knowledge, skills and motor dexterity (speed, strength, endurance, ability) contribute to development of motivation and character personality, feelings, moral and aesthetic habits (perseverance, boldness, courage, modesty, honesty, respect for the adversary, spirit of solidarity and cooperation, love for work).

3. Objectives with social functions, aimed at educating habit to practice physical training in systematic and organized manner, building up skills and skills related to the profession for which the student is prepared.

These objectives are achieved through binding activity, included in the curriculum for students in the first and second year and through sport activities organized for all the years of study.

4. Objectives with objectives for continuation of performance sports training.

The present research is based on the objectives at point three. Depending on the specialization and professions (animal husbandry engineer, veterinarian and agricultural engineer) which addresses the present paper, we can draw three specific characteristics of different types of movement:

Features 1 – addressed particularly for veterinarians

Position during work: standing (orthostatic) or sitting, torso leaning forward with the spine slightly arched and sometimes tense, favoring the installation of kyphosis and scoliosis, chest stuck with reduced amplitude for respiratory act (inspiration-exhalation). This specifics position produces some circulatory disorders especially in the legs and consequently an insufficient oxygenation of those tissues in question.

Movements performed during work are uniform and are limited in most cases to the upper limbs, some only in hands.

The reduced physical effort and manual operations performed during the work process, requires a lot of attention and straining sight.

Features 2 – addressed particularly to animal husbandry engineers

During work the position is mostly orthostatic or is derived from it.

Movements' specifics and effort characteristics: complex movement ensuring interconnecting the whole body, involving major muscle groups and especially muscle of the arms and trunk. The physical effort is

intense and sustained, requiring large expenditure of energy. Static effort alternate with dynamic effort.

Features 3 – addressed particularly to agricultural engineers

The position during work is orthostatic or is derived from it.

The movements performed engages entire body, physical effort is higher involving alternation of static effort with dynamic effort.

The movements and effort type thrives overall strength and endurance as well as joint and muscle stiffness. Supporting these efforts without prior and careful preparation can negatively influence growth and development of the organism, favoring the installation of deficiencies as: round back, kyphosis, shoulders low, scoliosis, etc.

The research was conducted on a total of 77 students from first year, attending courses at University of Agronomic Sciences and Veterinary Medicine. The period, in which the research was conducted, was around an academic year, comprising first and second semester.

Students were trained according to specific exercises for each specialization and at the end of each semester passed their evaluation through the verification and assessment unit (SUVA).

There were taken into account the results of students, boys and girls, to assess the first semester and second semester. The evaluation was made for: the force of abdominal muscles (number of repetitions in 30 seconds), the strength of the back muscles (number of repetitions in 30 "), jump length on the spot (meters), pushups in arms (number of repetitions).

The results were statistically analyzed and Fisher's exact test was applied.

RESULTS AND DISCUSSIONS

In table 1 and table 2 there are presented the results to verification and assessment unit system (SUVA) after the preparation of boy students, according to specialization of each group of students

Table 1. Average values at first semester final testing, for boys, depending on specializations and Fisher test values (critical values – 3.28)

Evaluation system	Animal Husbandry	Agriculture	CEPA	Fisher
Abdomens	22.38	22.46	22.14	0.05
Back Extensions	25.07	24.73	24.28	1.38
Jump length on the spot	2.29	2.27	2.27	0.32
Pushups	26.84	27.80	28.71	1.78

Table 2. Average values at second semester final testing, for boys, depending on specializations and Fisher test values (critical values – 3.28)

Evaluation system	Animal Husbandry	Agriculture	CEPA	Fisher
Abdomens	25.46	25.13	25	0.26
Back Extensions	28.23	27.13	27.14	2.20
Jump length on the spot	2.35	2.38	2.41	2.56
Pushups	31.53	31.33	32.57	0.82

At final test, the average values for the three groups are represented in figure 1, 2, 3 and 4. Variation analyze revealed an insignificant difference between boys groups, with 95% probability. Also it can be observed that the trial results have better average from first semester to second semester

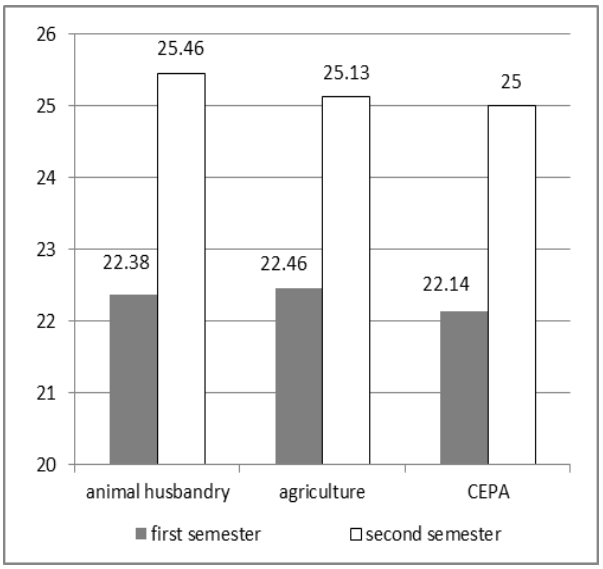

Fig. 1. Average values at first and second semester for boys abdomens final testing, depending on specializations

In table 3 and table 4 there are presented the results to verification and assessment unit system (SUVA) after the preparation of girl students, according to specialization of each group of students.

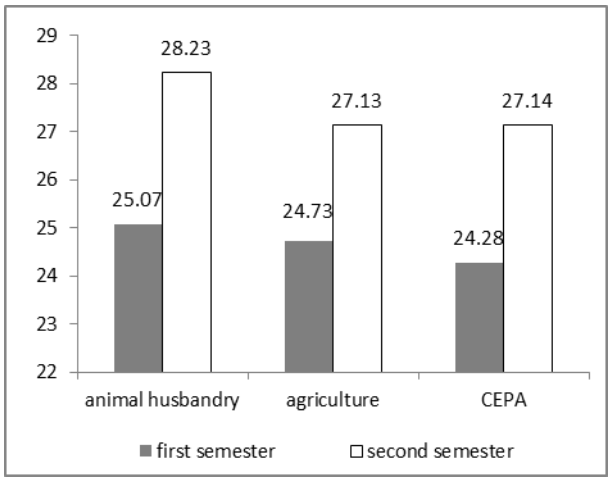

Fig. 2. Average values at first and second semester for boys back extensions final testing, depending on specializations

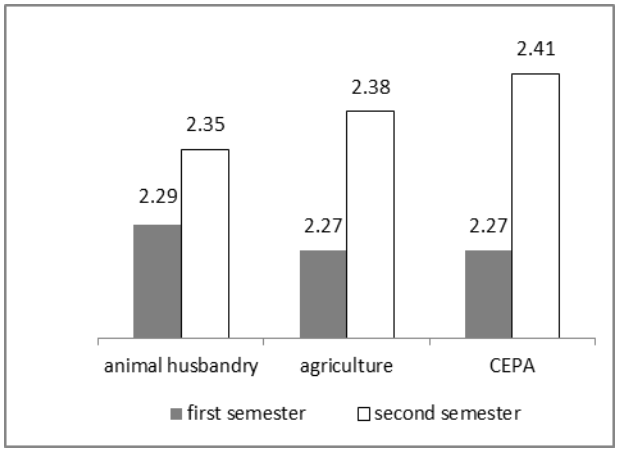

Fig. 3. Average values at first and second semester for boys jumping final testing, depending on specializations

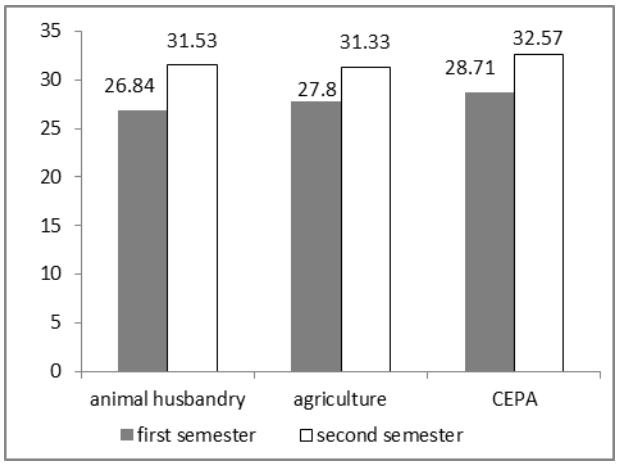

Fig. 4. Average values at first and second semester for boys pushups final testing, depending on specializations

At final test, the average values for the three groups are represented in figure 5, 6, 7 and 8.

Table 3. Average values at first semester final testing, for girls, depending on specializations and Fisher test values (critical values 0.05 – 3.23; 0.01 – 5.18)

Evaluation system	Animal Husbandry	Agriculture	CEPA	Fisher
Abdomens	18	17.9	18.77	2.26
Back Extensions	21	22.2	19.55	17.06
Jump length on the spot	1.69	1.71	1.62	4.75
Pushups	18.07	20.04	20.6	9.77

Table 4. Average values at second semester final testing, for girls, depending on specializations and Fisher test values (critical values 0.05 – 3.23; 0.01 – 5.18)

Evaluation system	Animal Husbandry	Agriculture	CEPA	Fisher
Abdomens	20.85	21.4	21.22	0.70
Back Extensions	23.92	24.5	22.66	9.14
Jump length on the spot	1.86	1.85	1.78	3.08
Pushups	22.57	23.60	23.66	1.94

Variation analyze revealed an insignificant difference between girls groups, with 95% probability, for abdomen in first and second semester and for pushups in second semester.

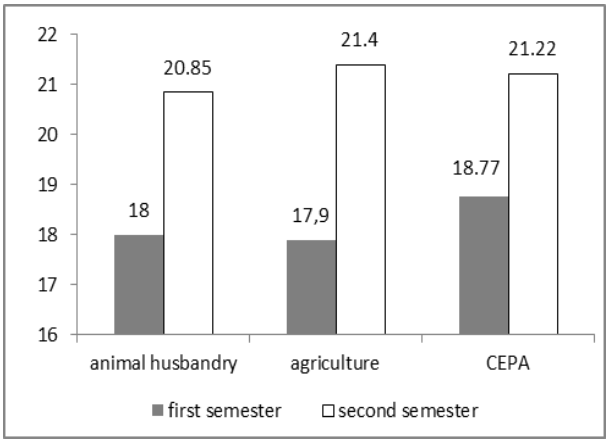

Fig. 5. Average values at first and second semester for girls abdomens final testing, depending on specializations

For jumping in first semester, there were registered significant statistical results between girls groups. In back extensions trial in first and second semester and pushups in first semester, the registered results were statistical very significant. Also, in girls groups, it can be observed that the trial results have better average from first semester to second semester.

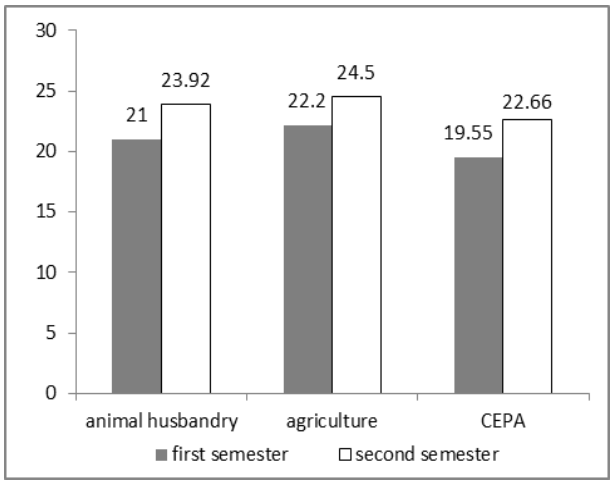

Fig. 6. Average values at first and second semester for girls back extensions final testing, depending on specializations

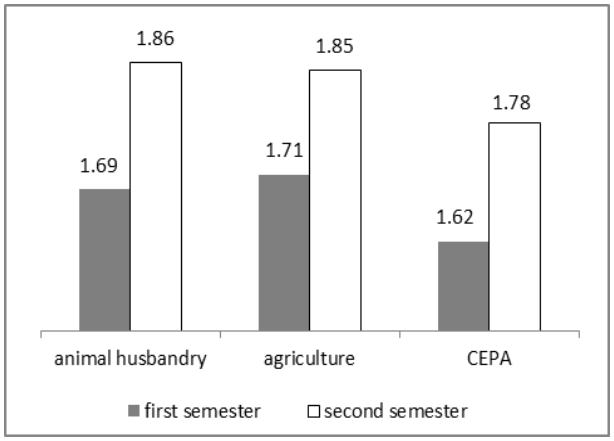

Fig. 7. Average values at first and second semester for girls jumping final testing, depending on specializations

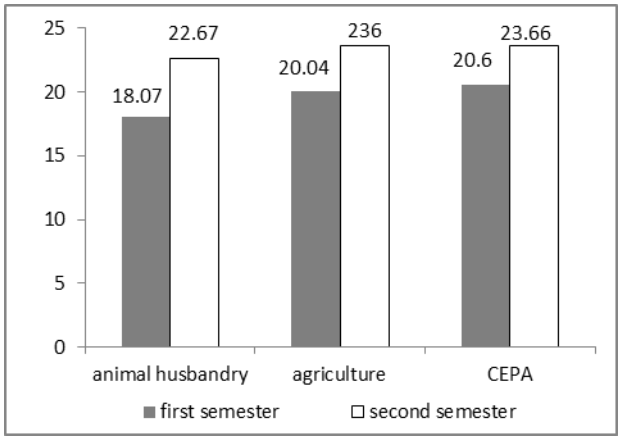

Fig. 8. Average values at first and second semester for girls pushups final testing, depending on specializations

CONCLUSIONS

The research led to the conclusion that the analyzed groups of boys and girls students from three specializations had an improvement in the average values for first semester compared to the averages of the second semester at all three analyzed specialization.

In groups of girls students, the statistical results showed that for jumping test in first semester, there were registered significant statistical results between girls groups and for back extensions trial in first and second semester and pushups in first semester, the registered results were statistical very significant.

This could be explained by the fact that girls were less physically prepared at the beginning of the research, and during physical training (one year), specialized training put its marks on fundamental motric skills specific to the job and showed in the results of the verification system.

Each group (specialization) realized training with exercises specific to the typical activity of the concerned specialization and the fact that in second semester training continued with these exercises relative to this specialization makes students taken in analysis to improve their physical condition, such as results of the second semester final examinations showed insignificant differences (jumping second semester compared to first semester and pushups second semester compared to first semester).

Exception was made in back extensions were the average results have improved, statistical value for calculated Fisher dropped, but still exceeded the critical Fisher value, differences being very significant.

The insignificant statistical differences found at evaluation tests in boys groups in all three specializations, compared with the statistical results obtained for girls groups in some tests can be explained due to a initial best physical condition of the boys from all three specializations.

It can be said that is relevant in this research that training the students in physical education and sport classes, with specific exercises for each specialization and future professions, can lead to mastery of a physical education techniques to neutralize the negative influences of professional effort on maintaining and physical development.

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