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LEVEL EVALUATION OF MOTRIC QUALITIES AT MEDICINE STUDENTS

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Abstract
The practicing of physical exercises, specific for physical education at university level, improves and adjusts the capacity of work and life of the youth, aiming the streamline of possibilities of their expression, irrespective of his social and professional domain where he activates.
The purpose of research consists in highlighting the level of basic and combined motric qualities by practicing physical education lessons at students level at UMF Tg-Mures.
Methods: It was a two university year research, between 2013-2015 which included a number of 224 students, organized in two groups, each group composed by 112 subjects, according to the specialization, namely: medicine and stomatology. The applied motric test aimed specific motric qualities, abdominal and dorsal musculature, and speed by power mode (expansion and standstill longjump)
Results: Following the development of research and after a statistical and mathematical analysis of individual vallues, is distinguished the fact that the tests that aimed the extension and abdominal strength, resulted small decreases of their level, and the results related to dorsal musculature and the speed by power mode tested by longjumping from the spot, resulted semnificative enhancements.
Conclusions: Practicing the curricula of physical education at universities targeting the motric qualities level should be conducted in all years of study to reduce the effects produced by the professional tasks and to keep or even improve the motric indexes on all life aspects of the youth.
Keywords: physical education, students, not profiled, motric qualities

1. Introduction

The physical education and sports as a discipline at academic level for not profiled students enforces the diversification of activities in a creative way in accordance with specific objectives, teaching position, preferences and trends of the area.
Because of this way of life and types of liabilities, it is often the case that students do not have enough time for physical activities, in so far as may be necessary for optimal balance and function (Badau D., si co., 2015, p. 247).

Practicing physical exercises, can have effect on both, motric and physical development, as well as on intellectual, moral and esthetic level. By the intellectual point of view the effects materializes in two important directions: arming the subjects with specific knowledge of the domain for practicing physical exercises (hygiene, physiology, biomechanics, psychology, methodology etc.) and developing some

features and qualities, like; focusing, thinking, memory, sense of observation, imagination, etc, straight by the process of physical exercise practice.

The examination of continuity of the practice of specific physical activities at university level in a "accumulation" and behavioural acquisition point of view, must be considered a series of elements, which are based on stadial nature of evolution of human personality.

The systematic activity of practicing physical exercises trough out life, has major implications not just in the social sphere, aiming professional integration but also in personal evolution.

Changing mindsets and behaviours for an active and healthy lifestyle should be the main goal for any current and future societies (Badau D., and co., 2015, p.250)

The systematic practice of physical exercises provided by universities curricula of physical education ,under the guidance of a specialist, completes next to other factors of our life also the;

- Psycho-physical plan, by improving the self image as a result of harmonious physical development.
- Social plan, due to the possibility of affiliation to a group with same concerns.
- Sanogenic plan, through functional influences which are being felt as a result of effectuation of physical exercises.

The fundamental tasks of physical education are: the optimization of biological development of the human being, reffering to the optimization of morpho-functional developments, the optimization of motion skills and habits, the prevention and correction of attitude deficiencies, psychical development building up of human personality (Badau D., 2007,p.26)

The discipline "Physical Education" as a content of the university curricula, has the role of widen the range of motric skills, influencing positively the level of motric qualities which concur to a harmonious physical development with a major role in all life spheres. A physical harmony creates the base of a higher intellectual yield and can became a foundation of a positive behaviour for the individual in society.

2. Purpose

The establishing of the hypothesis started by the assumption that between the two medical profiles at UMF Tg. Mures there are differences on specific and basic motric quality level, aiming strength and speed as a result of browsing the physical education lessons in the curricula.

3. Material and method

a) Period and place of the research

In the research an independent single variable was used as an experimental plan, from the didactic strategy, on improving the general motric capacity level, by selecting the methods and the specific actuating means of physical education, on medical profile.

It was a two year research, between 2013-2015 (oct. 2013- may. 2015), performing a lesson per week with a100 minutes duration.

The length of study was determined by the evaluations at the end of year, thereby each and every group had a test at the end of the first year, representing the initial testings, whereupon the promoted subjects in year two, a second test was applied which was considered the final test.

The research include two testings, the initial and the final, sequenced as:

- initial testings:10th-21st may;
- the implementation of suggested programs by specific activities of this discipline, at university level, which was applied during the years 2013-2024 and 2014-2015;
- final testings:12th may-26th may 2015.

The activity was held at UMF Tg-Mures in appointed halls for physical activities. The material basis includes two polyvalent halls, two fitness rooms, as well outdoor fields for soccer, tennis, handball and basket-ball.

b) *Subjects and groups*

The research included a number of 224 subjects, 112 students each, by their specialization, Medicine, and Stomatology. In this research we included the first eight groups from the three specializations, excluding those with medical exemptions. A group is made of 15 students, in some exceptions a number of 16.

The samples of research were formed of 20 girls and 92 boys from each specialization, between 19-23 years of age.

c) *Tests applied*

Targeting basic and combined motric qualities, physical education as a discipline applies the following probes: expansion, longjump from the spot, and the strength of abdominal and dorsal musculature.

Expansion: highjump, allows two attempts and the best result is noted, and it is measured in centimeters with the tip of the forefinger.

Longjump from the spot: allows two attempts, the highest value is considered, with one or two armoscilations, it is measured in centimeters the distance of tops, the heels starting distance and the landing position

The abdominal probes in a dorsal recumbant position, bended arms, hands at neck, elbows sideways, legs slightly bended, holding by a colleague, torso lifting in a 90 degree position, all counted in a 30 seconds period.

The strength of dorsal muscles is determined by lifting the torso from a face down layed position, arms bended, hands at the back of the neck, elbows sideways, legs holded by a colleague and the number of exercises are couted in a 30 seconds period.

Physical education lessons at UMF Tg-Mures for not profiled students targets the motric skills and the motric qualities as well by selecting a program which follows the curricula of this discipline.

The methods of research applied in this study were: the study of literature of specialization, graphical representation, and statistical and mathematical analysis.

4. Results and discussions

Unfolding the research, collecting and analizing the obtained results the following were registered:

Speed by power mode-lower train-Expansion

Table nr. 1 Result centralizer-Expansion

Parameters	Medicine		Stomatology	
	TI	TF	TI	TF
Sum	4626	4615	4553	4533
Mean	41.30	41.21	40.65	40.47
Std. Deviation	8.873	8.439	7.633	7.577
P value	0.0038**	0.0067**	0.0482*	0.0487*
t	t=49.20	t=51.61	t=56.29	t=56.46
CV	21.48%	20.48%	18.78%	18.72%

After the analysis of the obtained results at the probes which aims speed by power mode by performing the highjump (expansion), by calculating the differences of arithmetical average between the tests, a 0.09 regress was registered at the medicine group, and at the stomatology the regression reached a 0.18 executions.

This combined motric quality it is worked insufficiently, maintaining and in some cases improving only in sports games like volleyball or basket-ball and rarely in general physical developing exercises.

The homogeneity of the involved groups in the experiment, by calculating the coefficient of variability, registers a weak homogeneity of 20 percent at the medicine, and a good 20 percent at the stomatology, justified by the mixed components of the groups. This combined motric quality depends on anthropometric indexes of the subject and the height and length of the segments as well.

By applying the "t-Student" tests and by calculating the correlation index "p", all values are significantly lower than 0,05,and the values of index "p" highlights comparatively, that the average of

obtained results at the initial tests, very significantly from the final tests results with lower values at the stomatology

Speed by power mode-upper train-Longjump from spot

Table nr.2 Result centralizer-Longjump from spot

Parameters	Medicine		Stomatology	
	TI	TF	TI	TF
Sum	21864	21880	21835	21868
Mean	195.2	195.4	195.0	195.3
Std. Deviation	20.61	19.83	20.06	19.41
P value	< 0.0001****	< 0.0001****	< 0.0001****	< 0.0001****
t	t=100.2	t=104.2	t=102.8	t=106.4
CV	10.56%	10.15%	10.29%	9.94%

The test what targets the speed by power, by executing the longjump from spot, during the research we obtained a bold progress by calculating the arithmetical average between the two tests, thereby the medicine's group registered a progress of 0,2 executions, and in the group of stomatology the progress was 0.3 executions.

Even if the progress is not a major one, it is significant, considering the subjects specialization, and we also consider that it represents a positive aspect, revealed by effecting the physical education classes and by compulsoriness of participating at this classes.

The homogeneity of the involved groups in the experiment, by calculating the coefficient of variability, registers a just good homogeneity of over 10 percent at the tests, with the exception of the final tests at the stomatology, explained by the mixed components of the groups.

By applying the "t-Student" tests and by calculating the correlation index "p", all values are significantly lower than 0,05,and the values of index "p" highlights comparatively, that the average of obtained results at the initial tests, very significantly from the final test results at both specializations.

Abdominal musculature strength (torso lifting)

Table nr 3. Result centralizer sit-ups

Parameters	Medicine		Stomatology	
	TI	TF	TI	TF
Sum	2566	2559	2566	2555
Mean	22.91	22.85	22.91	22.81
Std. Deviation	2.192	2.165	2.192	2.204
P value	0.0023**	0.0329*	0.0023**	0.0282*
t	t=110.4	t=111.4	t=110.4	t=109.3

CV	9.57%	9.48%	9.57%	9.66%

The step of research targeting the abdominal strength tests, by calculating the arithmetical average between the tests, the medicine's group registered a regress of 0,06 executions, and the stomatology had a regression of 0.1 executions.

This negative results can be justified by the intellectual requests, specific for the specialization, which demands time for other activities (as physical like) disadvantage, with real effects on abdominal muscles, and by allocating insufficient time for classes in the curricula for this discipline.

The homogeneity of the involved groups in the experiment, by calculating the coefficient variability, registers a very good homogeneity of under 10 percent at both tests.

By applying the "t-Student" tests and by calculating the correlation index "p", all values are significantly lower than 0.05,and the values of index "p" highlights that: the average of obtained results in the final test, very significantly from the results of the initial test at both specializations.

Strenght of dorsal muscles

Table nr.4 Result centralizer-extensions

Parametri	Medicina		Stomatologie	
	Ti	TF	Ti	TF
Sum	3867	3880	3839	3867
Mean	34.53	34.64	34.28	34.53
Std. Deviation	3.531	2.916	2.845	2.695
P value	0.3683	0.0367*	0.4404	0.0400*
t	t=103.3	t=125.6	t=127.5	t=135.6
CV	10.23%	8.42%	8.30%	7.80%

Targeting the dorsal muscles strength by approaching the research, the calculated arithmetical results in the tests the medicine registered a progress of 0.11 executions and the stomatology group had a progress of 0.25 executions.

These positive differences are justified by selected and applied programs inside of physical education classes, supplemented with fitness equipment and material.

The homogeneity of the involved groups in the experiment, by calculating the coefficient variability, registers a very good homogeneity of under 10 percent at the tests, with the exception of the initial test at medicine.

By applying the "t-Student" tests ,and by calculating the "p" index, all values are significantly lower than 0.05,at the final test comparing with the initial tests, and the "p" index values reveals that the values between the initial and the final tests differs significantly at both specializations

For a better view of the results we made a graphical representation that covers both tests for each specialization in part, at all 4 probes, willing to point out the comparative evolution.

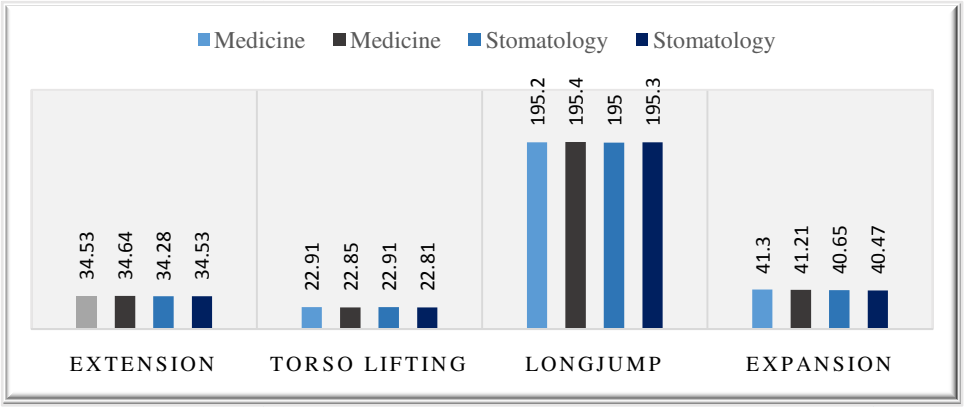

Fig.1. Graphical representation of arithmetical values of probes at the tests

In the graphical representation can be observed that, at the initial tests at all probes, the students from medicine had almost identical values, and at the final tests they showed variations, but almost the same, identical values. The most significant improvement was found in the test aiming the strength of dorsal muscles at the stomatology.

Conclusions

Following the development of research by referring the studied motric qualities, namely the segmental force and the speed by power mode, as a result of execution of specific programs of this discipline (physical education) we found both, progress and easy regresses. Improvements were made in strengthening the dorsal muscles and at the combined quality at the longjump probes.

Targeting the abdominal muscles by analyzing the results, it recorded a fall of its level, as well as the extension.

One of the findings relates at the motric potential of the participating students at this approach of research, by applying a series of tests, the following conclusion is detached: in the university education we should put a bigger accent on the differential practice of motric activities in physical education, in order to, any student can participate and practice more forms of motricity of physical exercises, for a harmonious and better general physical improvement, or a different branch of sport, according to their physical condition or preferences.

The motric activity is made of the overall of motric actions, structured for a functional and organizational requirement, specific for physical education and sports.

The motric qualities has interconditionality relations, has elements of caracterization, it is based on mobilizing the energetic reserves, and their evaluation allows the goals of physical training and physical condition, and they are the components of motric capacities, systemized on deep and clear criterias.

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EXPERIMENTAL STUDY ON IMPROVING EXPANSION BY MEANS OF PARKOUR TO STUDENTS IN THE 8TH GRADE