



THE DYNAMICS OF DEVELOPING CONTINUED CAPACITIES FOR 1ST AND 2ND YEAR OF STUDY DURING PHYSICAL EDUCATION CLASSES

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Abstract

Purpose: We consider that so far no method was found to make it possible for the whole expression of the level of development of conditional capacities, in its entire complexity, on the basis of some objective parameters that can be considered as being the most convincing ones. The most frequent appreciations and comparisons as to the level of manifestation of conditioned capacities are made according to the place in which the obtained results by different subjects are met within the frequency polynomial that results after centralising individual results and by taking into consideration the proximity or distance from the average level. We make these appreciations on the basis of individual motor skills tests and, in order to evaluate collectivises, by using on a large scale the arithmetic means and dispersion parameters from the average that can be the first figures that have to be taken into consideration when we want to characterise a collectivity.

Methods: The data gathered from the test at the level of manifestation of conditional capacities were noted, analysed and interpreted using investigative methods (observation and experiment) as well as mathematic, statistic and graphical method.

Results: By applying continuously and systematically the most efficient methods and means we were able to register obvious progress in developing conditional skills during the two research years. The achieved progress cannot be only the result of the methods but also that of the development process and physical growth achieved by these young men. The evaluation and appreciation of the results aimed not only at the quality aspect but also the quality aspect of students' evolution. The tasks of the lessons didn't aim at developing conditional capacities; it also observed other didactical tasks.

Conclusions: Interpreting the gathered data allows us to broaden our horizons as to approaching the physical education classes in order to develop conditional capacities. By calculating the arithmetic means of the four sports tests we came to values of arithmetic means that show a normal motor skill development that supports a normal physical development as to the age the student were and their level of preparation. [Finichiu, 2004]. By calculating the variable coefficient we came to the conclusion that the groups of students are homogenous. In the future we can increase the number of repetitions and the distances used in an ordinary basis during the Physical Education classes – in the case of sports games and while developing conditional capacities.

Key Words: dynamics, conditional capacities, students, classes.

Introduction and Research Objectives

The present research aims at building a reference starting point as to the level of developing the capacities of the youth in our university throughout 1 university year. Increasing the efficiency of Physical Education classes is a permanent preoccupation in the educational field by movement among the youth of our country. The university education undergoes a period of changes in structure and content and the only thing left to do is that us, the ones invested with the education of the human body to continually sustain the "thirst" for movement that youth has. Taking as a starting point the results obtained during these years, we made a new testing as to the level of conditioned capacity of students from the 1st and 2nd years of study that go to Physical Education classes as part of their curriculum.

University Physical Education must be regarded not only as a way of teaching motor skills but also as a way of implementing a highly complex education that

will remain part of the daily customs in the future of our graduates. We consider necessary to carefully study the possibility of orienting the analytical content of the curriculum – the Physical Education field, starting from the biological needs of each specialisation, ensuring specific training to the needs of the profession he is preparing himself for; thus we consider that we can find a direct correlation between the content of the analytical program and the tests students undergo in the system of university Physical [Finichiu, 2010]. The last years were marked by the increase in the interest people give to practicing physical exercise under different forms, starting from walking, running, trips – backpacking, riding a bike, skiing and going as far as intense training at the gym, fitness or going to the swimming pool, all having as purpose keeping their health and affirming individual personality.

Student autonomy is expressed by ways of training the body for effort until a sports competition



during the lesson. The objectives of the research are resumed to the following aspects:

- during Physical Education classes different methods and means can be applied in order to determine the development of conditioned;
- the gain in increasing the manifestation level of conditioned capacities, measured after this programme, can be reported to using different methods and means.

Research Hypothesis

The quality and efficiency of the training process will be oriented towards achieving the objectives, the content and strategies as well as evaluating motor and functional parameters.

Research Procedures and Methods

The research took place over university year 2011-2012; the testing battery was applied to students attending 1st and 2nd year courses at Oil & Gas University, Ploiești and comprises 600 young people from the 5 faculties. Knowing the level of manifestation of conditional capacities, we gave the following tests: speed running for 50 m with standing up start, long standing jump, vertical standing jump, endurance running for 1000 m. The initial testing took place during the month of October and November

Table 1. *Statistic indicators calculated after the initial testing*

Study year	Standing Speed Run for 50 m			Long Standing Jump			Vertical Standing Jump			Endurance Running for 1000 m		
	X	S	Cv%	X	S	Cv%	X	S	Cv%	X	S	Cv%
Letters and Sciences Faculty												
I	7.16	0.46	6.82	213.02	0.17	8.05	27.89	7.89	15.23	5.06	0.39	8.54
II	7.18	0.37	5.16	216.22	0.17	7.98	26.56	10.21	21.23	4.59	0.35	7.98
Mechanical Engineering and Electronics Faculty												
I	7.01	0.45	6.27	222.32	0.21	10.06	29.12	7.05	14.89	4.55	0.48	10.23
II	6.87	0.41	6.03	220.45	0.25	17.68	30.01	7.56	16.01	4.59	0.51	11.56
Oil and Gas Engineering Faculty												
I	7.02	0.40	5.78	224.12	0.18	9.01	27.54	9.51	18.99	4.49	0.40	9.32
II	7.01	0.44	6.17	226.45	0.15	6.10	28.68	6.35	16.12	4.45	0.45	9.54
Oil Technology and Oil Chemistry Faculty												
I	7.14	0.44	5.89	221.78	0.21	9.75	26.03	7.87	18.12	4.55	0.39	8.12
II	7.12	0.36	5.13	225.33	0.15	6.12	28.32	8.51	19.56	4.49	0.41	8.97
Economical Studies Faculty												
I	7.16	0.42	6.58	219.69	0.22	8.32	26.02	7.89	16.50	5.02	0.45	7.65
II	7.13	0.39	5.69	223.49	0.19	6.45	27.89	9.50	18.45	4.58	0.48	8.12

a. Speed running for a distance of 50flat, standing

By applying this test we wanted to observe the speed at which the students ran. This allows us to come to the following:

Letters and Sciences Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, for the 1st year of study as well as the 2nd is has similar values, being

2011(table 1) and the final testing during the period April – Mai 2012 (table 2), on our own sports court. The methods and techniques used are part of the category of own investigation (observation and experiment_ as well as analysis and interpretation techniques of the data gathered (statistical, mathematical and graphic).

Research Results and Their Interpretation

As we all know, the average values, namely the arithmetic means, characterise the common characteristics of a collectivity. They can hide a series of individual characteristics that, being hidden in the average, remain unknown. Thus, they can hide a series of individual characteristics of an outmost importance. This means that the average value is insufficient for the characterisation of collectivises as a series of unknown characteristics remain hidden in the average. It is important for us to know the standard departure, the variable coefficient in order to form a correct opinion on the value of collectivity as to the investigation parameters are concerned. [Niculescu, 2002].

between the levels of 7,12 – 7,18, registering higher values after the final testing. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and high data homogeneity.

➤ Estimating arithmetic means error (AME),after the initial testing for 1st year of study, the trust limits are situated within a level of 7.16 ± 0.32 (6.84÷7.48) at $p < 0.01$, trust level of 99% and after the



final testing, trust levels are situated between 7.18 ± 0.22 ($6.96 \div 7.40$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 7.12 ± 0.29 ($6.83 \div 7.41$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 0.27 ($6.87 \div 7.42$) for $p < 0.01$, trust level of 99%.

Mechanical Engineering and Electronics Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, comprise levels of 6,87 to 6,97 for 2nd year students and of 7,01 to 7,06 values for 1st year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and high data homogeneity.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 7.01 ± 0.24 ($6.77 \div 7.25$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 7.01 ± 0.24 ($6.77 \div 7.25$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 7.06 ± 0.19 ($6.87 \div 7.25$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 6.97 ± 0.22 ($6.75 \div 7.19$), trust level of 99%.

Oil and Gas Engineering Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, comprise levels of 7,01 to 6,88, 6,87 la 6,97 for 2nd year students and of 7,02 to 6,95 values for 1st year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and high data homogeneity.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 7.02 ± 0.17 ($6.85 \div 7.19$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 7.01 ± 0.22 ($6.79 \div 7.23$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 6.95 ± 0.19 ($6.76 \div 7.14$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 6.88 ± 0.15 ($6.73 \div 7.03$), trust level of 99%.

Oil Technology and Oil Chemistry Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, for the 1st year of study as well as the 2nd is has similar values, being between the levels of 7,06 – 7,14, registering higher

values after the final testing. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and high data homogeneity.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 7.14 ± 0.28 ($6.86 \div 7.42$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 7.12 ± 0.23 ($6.88 \div 7.35$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 7.06 ± 0.23 ($6.83 \div 7.29$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 7.09 ± 0.22 ($6.87 \div 7.31$) at $p < 0.01$, trust level of 99%.

Economical Studies Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, for the 1st year of study as well as the 2nd is has similar values, being between the levels of 7,13 – 7,16, registering higher values after the final testing. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a great data homogeneity

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 7.16 ± 0.30 ($6.86 \div 7.46$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 7.13 ± 0.27 ($6.86 \div 7.40$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 7.14 ± 0.26 ($6.88 \div 7.40$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 7.12 ± 0.24 ($6.88 \div 7.36$) at $p < 0.01$, trust level of 99%.

b. Standing Long Jump

By applying these tests we measured the explosive force at the level of inferior limbs on the horizontal and this allows us to make the following interpretation:

Letters and Sciences Faculty

➤ The arithmetic means gathered from the students throughout the two research years are situated between 213.02 cm and 218.35 cm, for the 1st year of study and between 216.22 cm – 222.86 cm, for the 2nd year. Standard departure and variable coefficient show us a normal distribution team and a great homogeneity of the registered data for the students of the 2nd year after the two tests; and for the 1st year of study students the homogeneity is great after the first testing and average after the final one.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 213.02 ± 36.01 ($177.01 \div 249.03$) at $p < 0.01$, trust level of 99% and



after the final testing , trust levels are situated between 218.35 ± 31.60 ($186.75 \div 249.95$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 216.56 ± 26.32 ($190.24 \div 242.88$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 222.86 ± 30.15 ($190.71 \div 253.01$) at $p < 0.01$, trust level of 99%.

Mechanical Engineering and Electronics Faculty

➤ Te arithmetic means gathered from the students throughout the two research years are situated between 222.32 cm and 225.55 cm, for the 1st year of study and between 220.45 cm – 229.71 cm, for the 2nd year. Standard departure and variable coefficient show us a normal distribution team and a great homogeneity

of the registered data for the students of the 2nd year after the two tests; and for the 1st year of study students the homogeneity is great after the first testing and average after the final one

➤ Estimating arithmetic means error (AME),after the initial testing for 1st year of study, the trust limits are situated within a level of 222.32 ± 33.45 ($188.87 \div 255.77$) at $p < 0.01$, trust level of 99% and after the final testing , trust levels are situated between 225.55 ± 29.15 ($196.40 \div 254.70$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 220.45 ± 24.53 ($197.92 \div 246.98$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 229.71 ± 23.05 ($206.66 \div 252.76$) at $p < 0.01$, trust level of 99%.

Table 2. *Statistic Indicators calculated after the final testing*

Study Year	Standing Speed Run for 50 m			Long Standing Jump			Vertical Standing Jump			Endurance Running for 1000 m		
	X	S	Cv%	X	S	Cv%	X	S	Cv%	X	S	Cv%
Letters and Sciences Faculty												
I	7.12	0.49	6.78	218.35	0.26	12.01	28.53	8.25	17.55	4.56	0.49	12.75
II	7.15	0.46	8.56	222.86	0.23	9.56	32.65	7.69	15.78	4.51	0.39	8.21
39.36 ± 5.22 ($34.14 \div 44.58$)												
I	7.06	0.45	6.12	225.55	0.23	9.86	32.69	7.55	16.01	4.35	0.51	10.52
II	6.97	0.45	6.54	229.71	0.20	9.19	39.03	8.31	17.54	4.30	0.48	9.77
Oil and Gas Engineering Faculty												
I	6.95	0.43	6.35	226.59	0.19	7.91	33.23	9.56	19.01	4.32	0.46	9.68
II	6.88	0.46	6.95	230.44	0.21	8.99	39.36	7.11	14.65	4.29	0.52	12.09
Oil Technology and Chemistry Faculty												
I	7.06	0.48	6.76	228.11	0.19	8.32	28.44	6.78	14.21	4.38	0.38	15.25
II	7.09	0.47	7.98	227.09	0.25	10.01	33.97	8.01	15.03	4.39	0.49	11.98
Economical Studies Faculty												
I	7.14	0.49	7.12	225.82	0.21	8.86	29.21	9.12	15.31	4.52	0.48	9.65
II	7.12	0.43	8.61	226.66	0.22	9.75	31.33	8.65	17.87	4.50	0.41	13.21

Oil and Gas Engineering Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, comprise levels of 224.12 cm and 226.59 6,87 cm for 1st year students and of 226.45 cm – 230.44 cm for second year students . Standard departure and variable coefficient show us a collectivity having a normal distribution of results and high data homogeneity.

➤ Estimating arithmetic means error (AME),after the initial testing for 1st year of study, the trust limits are situated within a level of 224.12 ± 26.11 ($198.01 \div 250.23$) at $p < 0.01$, trust level of 99% and after the final testing , trust levels are situated between 226.59 ± 23.06 ($203.53 \div 249.65$) at $p < 0.01$, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 226.45 ± 24.22 ($202.23 \div 250.65$) for $p < 0.01$, trust level 99% and after final

testing, trust levels are situated between 230.44 ± 19.15 ($211.29 \div 249.59$) at $p < 0.01$, trust level of 99%.

Oil Technology and Chemistry Faculty

➤ The arithmetic means gathered from students during the two research years are situated between 221.78 cm and 228.11 226.59 6, 87 cm for 1st year students and of 225.33 cm – 227.09 cm for second year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and high data homogeneity for the 1st year students after the two tests; for the 2nd year student's homogeneity is higher after the final test and average after the initial testing.

➤ Estimating arithmetic means error (AME),after the initial testing for 1st year of study, the trust limits are situated within a level of 221.78 ± 25.95 ($195.83 \div 247.73$) at $p < 0.01$, trust level of 99% and after the final testing , trust levels are situated between



228.11 ± 28.05 (200.06 ÷ 256.16) at p<0.01, trust level of 99%.

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 225.33 ± 25.73 (199.60 ÷ 251.06) for p<0.01, trust level 99% and after final testing, trust levels are situated between 227.09 ± 24.12 (202.97 ÷ 251.21) at p<0.01, trust level of 99%.

Economical Studies Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, comprise levels of 219.69cm and 225.82 cm and 226.59 6.87 cm for 1st year students and of 223.49 cm – 226.66 cm for second year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a high data homogeneity

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 219.69 ± 27.31 (192.38 ÷ 247) at p<0.01, trust level of 99% and after the final testing, trust levels are situated between 225.82 ± 26.56 (199.26 ÷ 252.38) at p<0.01, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 223.49 ± 25.27 (198.22 ÷ 248.76) for p<0.01, trust level 99% and after final testing, trust levels are situated between 226.66 ± 22.75 (203.91 ÷ 249.41) at p<0.01, trust level of 99%.

c. Standing Long Jump

By applying this test we registered the explosive force at the level of inferior limbs on the vertical and this allows us to make the following interpretation.

Letters and Sciences Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, comprise levels of 27.89 cm and 28.53 cm for 1st year students and of 26.56 cm – 32.65 cm for second year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a great data homogeneity

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 27.89 ± 4.21 (23.78 ÷ 32.10) at p<0.01, trust level of 99% and after the final testing, trust levels are situated between 28.53 ± 3.06 (25.47 ÷ 31.59) at p<0.01, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 26.56 ± 3.52 (23.04 ÷ 30.08) for p<0.01, trust level 99% and after final testing, trust levels are situated between 32.65 ± 4.35 (28.30 ÷ 37) at p<0.01, trust level of 99%.

Oil and Gas Engineering Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, comprise levels of 29.12 cm and 32.69 cm for 1st year students and of

30.01 cm – 39.03 cm for second year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a medium data homogeneity

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 29.12 ± 4.54 (24.58 ÷ 33.66) at p<0.01, trust level of 99% and after the final testing, trust levels are situated between 32.69 ± 4.16 (28.63 ÷ 36.85) at p<0.01, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 30.01 ± 4.72 (25.29 ÷ 34.73) for p<0.01, trust level 99% and after final testing, trust levels are situated between 39.03 ± 5.67 (33.36 ÷ 44.70) at p<0.01, trust level of 99%.

Mechanical Engineering and Electronics Faculty

➤ The arithmetic means calculated, after initial testing as well as after the final one, comprise levels of 27.54 cm and 33.23 cm for 1st year students and of 28.68 cm – 39.36 cm for second year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a medium data homogeneity

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 27.54 ± 4.04 (23.50 ÷ 31.58) at p<0.01, trust level of 99% and after the final testing, trust levels are situated between 33.23 ± 4.77 (28.46 ÷ 38) at p<0.01, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 28.68 ± 5.12 (23.56 ÷ 33.80) for p<0.01, trust level 99% and after final testing, trust levels are situated between 39.36 ± 5.22 (34.14 ÷ 44.58) at p<0.01, trust level of 99%.

Oil Technology and Chemistry Faculty

➤ The arithmetic means calculated, during the two research years, comprise levels of 26.03 cm and 28.44 cm for 1st year students and of 28.33 cm – 33.97 cm for second year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a medium data homogeneity

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 26.03 ± 3.74 (22.29 ÷ 29.77) at p<0.01, trust level of 99% and after the final testing, trust levels are situated between 28.44 ± 4.07 (24.37 ÷ 32.51) at p<0.01, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 28.32 ± 4.42 (23.90 ÷ 32.74) for p<0.01, trust level 99% and after final testing, trust



levels are situated between 33.97 ± 4.51 ($29.46 \div 38.46$) at $p < 0.01$, trust level of 99%.

Economical Studies Faculty

➤ The arithmetic means calculated, during the two research years, comprise levels of 26.02 cm and 29.21 cm for 1st year students and of 27.89 cm – 31.33 cm for second year students. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a medium data homogeneity

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 26.02 ± 3.88 ($22.14 \div 29.90$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 29.21 ± 4.55 ($24.66 \div 34.21$) at $p < 0.01$, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 27.89 ± 4.22 ($23.67 \div 32.11$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 31.33 ± 4.58 ($26.75 \div 35.91$) at $p < 0.01$, trust level of 99%.

d. Endurance Run for a Distance of 1000 m

By giving this test we analysed the cardiovascular resistance and we were able to make the following interpretations:

Letters and Sciences Faculty

➤ The arithmetic means calculated for the first year students are situated within levels 5.06 min. and 4.56 min, and for the 2nd year students within an interval that comprises the values 4, 59 min and 4.51 min. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a high data homogeneity after the initial testing, for both school years and for the students in the 2nd year a medium homogeneity after the final testing.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 5.06 ± 0.25 ($4.41 \div 5.31$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 4.56 ± 0.23 ($4.33 \div 5.19$) at $p < 0.01$, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 4.59 ± 0.19 ($4.40 \div 5.18$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 4.51 ± 0.18 ($4.43 \div 5.09$) at $p < 0.01$, trust level of 99%.

Mechanical Engineering and Electrics Faculty

➤ The arithmetic means calculated for the first year students are situated within levels 4.55 min. and 4.35 min, and for the 2nd year students within an interval that comprises the values 4, 59 min and 4.30 min. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a high data homogeneity after the initial testing, for

both school years and for the students in the 2nd year a medium homogeneity after the final testing.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 4.55 ± 0.21 ($4.34 \div 5.16$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 4.35 ± 0.14 ($4.21 \div 4.49$) at $p < 0.01$, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 4.59 ± 0.13 ($4.46 \div 5.12$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 4.30 ± 0.11 ($4.19 \div 4.41$) at $p < 0.01$, trust level of 99%.

Oil and Gas Engineering Faculty

➤ The arithmetic means calculated for the first year students are situated within levels 4.49 min. and 4.32 min, and for the 2nd year students within an interval that comprises the values 4, 45 min and 4.29 min. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a high data homogeneity after the initial testing, for both school years and for the students in the 2nd year a medium homogeneity after the final testing.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 4.49 ± 0.20 ($4.29 \div 5.09$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 4.32 ± 0.17 ($4.15 \div 4.49$) at $p < 0.01$, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 4.45 ± 0.15 ($4.30 \div 5.00$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 4.29 ± 0.09 ($4.20 \div 4.38$) at $p < 0.01$, trust level of 99%.

Oil Technology and Chemistry Faculty

➤ The arithmetic means calculated for the first year students are situated within levels 4.55 min. and 4.38 min, and for the 2nd year students within an interval that comprises the values 4, 49 min and 4.39 min. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a high data homogeneity after the initial testing, for both school years and for the students in the 2nd year a medium homogeneity after the final testing.

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 4.55 ± 0.22 ($4.33 \div 5.17$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 4.38 ± 0.16 ($4.22 \div 4.54$) at $p < 0.01$, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 4.49 ± 0.19 ($4.30 \div 5.08$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 4.39 ± 0.08 ($4.31 \div 4.47$) at $p < 0.01$, trust level of 99%.

Economical Studies Faculty



➤ The arithmetic means calculated for the first year students are situated within levels 5.02 min. And 4.52 min, and for the 2nd year students within an interval that comprises the values 4.58 min and 4.50 min. Standard departure and variable coefficient show us a collectivity having a normal distribution of results and a high data homogeneity after the initial testing, for both school years and for the students in the 2nd year a medium homogeneity after the final testing

➤ Estimating arithmetic means error (AME), after the initial testing for 1st year of study, the trust limits are situated within a level of 5.02 ± 0.22 ($4.40 \div 5.24$) at $p < 0.01$, trust level of 99% and after the final testing, trust levels are situated between 4.52 ± 0.21 ($4.31 \div 5.13$) at $p < 0.01$, trust level of 99%

➤ Estimating arithmetic means error (AME), after initial testing for 2nd year of study students, the trusts levels are between 4.58 ± 0.21 ($4.37 \div 5.19$) for $p < 0.01$, trust level 99% and after final testing, trust levels are situated between 4.50 ± 0.19 ($4.31 \div 5.09$) at $p < 0.01$, trust level of 99%.

Conclusions

1. Interpreting the gathered data allows us to broaden our class approach during the Physical Education classes in order to develop conditional capacity. By calculating the arithmetic means of the four tests we obtained the average arithmetic means that stand for a normal motor development according to the age and the level of training of the students, [according to Finichiu's notes, 2004].

2. The calculation of the variability coefficient shows that, from a motor point of view, the student groups are homogenous.

3. In the future we can increase the number of repetitions and the distances usually used during the

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Physical Education classes, during the sport games as well as during the moment developing the conditioned capacities [according to Deacu's registers, 2007].

4. The progress achieved cannot be only the result of the methods used means and the physical growth achieved by these students.

5. Appreciating and evaluating the results aimed not only at the quantitative aspect as well as the quality aspect in student evolution.

6. The tasks of the Physical Education classes do not have as unique aim developing conditioned capacities, but it also has other didactical objectives.

7. The motor performance represents an indicator that depends on the individual physical particularities.

8. The calculated values for the level of manifestation of the conditional capacities are similar, thing that indicates a similar evolution, generally applicable, for individual to individual [according to the results registered by Constantinescu, 2011].

9. Practicing physical exercise doesn't have to limit itself at being a university/ school obligation, as we try to show in all curriculums, by limiting the number of classes of Physical Education, by motivating the specific of each specialisation and surpassing the number of classes per week, which is a grave error for the young generation. That is why we support the necessity of increasing the number of Physical Education classes in universities/ schools.

10. By gathering and interpreting the 910 primary data, we could observe a slight increasing evolution of average arithmetic means calculated for the 4 tests.

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