

The Importance of the Differentiated Treatment Requirement in the Operationalization of the Physical Education Lesson Targets

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Abstract— In the physical education and sports lesson, the teacher is always confronted with the dialectic contradiction existing between pupils' individual physical skills and the optimization target of the class performance level, in an uniform way, so that we consider that it is necessary to implement a differentiated teaching process in order to achieve the framework and reference objectives. This supposes that the differentiation within the teaching process be subordinated to homogenization in order to obtain the desired effect. Measures shall be taken in order to guarantee pupils' individual progresses as well as to represent an impulse in their activities. An essential condition in the optimization of the motion skills and performances improvement is that the appraisal of pupils' initial training level be accurate and also to avoid overstrain or understrain.

We started our research from the premise that the differentiated dosing of the current effort of training means used in the optimization of the manifestation forms of resistance motion skill, will allow its education at higher parameters according to the requirements of age and sex. We wish that the methodology used to contribute to the performance of an efficient activity during the physical education and sports lesson and, also, to the strengthening of work motivation for the optimization of the manifestation forms of resistance motion skill, particularly for pupils with an inferior training level.

Index Terms— Motion Skills, Resistance, Differentiated Treatment.

I. INTRODUCTION

We started our research from the premise that the differentiated dosing of the current effort of training means used in the optimization of the manifestation forms of resistance motion skill, will allow its education at higher parameters according to the requirements of age and sex. We wish that the methodology used to contribute to the performance of an efficient activity during the physical education and sports lesson and, also, to the strengthening of work motivation for the optimization of the manifestation forms of resistance motion skill, particularly for pupils with an inferior training level.

Research Hypothesis We presume that if we use the effort differentiated dosing during the physical education and sports lesson having as subject the education of the resistance motion skill, the work on bio-motion value level groups and work formations based especially on the method of group

work and workshops, we will increase pupils' motivation for the optimization of resistance manifestation forms, particularly in the case of pupils having a lower training level.

Research purpose We propose to contribute to the emphasis of the differentiated treatment role during the physical education and sports lesson and to the underlining of the importance in the effort differentiated dosage. Also, through the work methodology, we will monitor the optimization of the resistance motion skill manifestation forms that can be found in the 5th grade educational plan.

Research methods used: speciality literature analysis and study method, observation method, questionnaire investigation method, pedagogical experiment method, statistic-mathematical method and graphical and tabulating method.

The results of the survey addressed to the physical education teachers revealed the fact that: for the optimization of the resistance manifestation forms, the persons interrogated give the same importance as to the other basic motion skills, used for the 5th grade, according to speciality documents planning and recommendations; 40% of the persons interrogated apply and use the principles of the differentiated treatment requirement, 20% use it sometimes, and 40% do not apply it, but 40% of those included in the investigation noticed diminutions in all pupils' performance. The majority of the interrogated teachers - 90% agree that the use of the group work method according to the bio-motion value level in the 6th thematic link, will determine the increase of the lesson motion density.

II. EXPERIMENTAL MODEL PRESENTATION (WORK SCHEDULE)

Work schedule implementation modality

Based on the research performed, on the speciality literature analysis, the optimization methodology of resistance motion skill was elaborated with specific athletic means, based on the differentiated treatment requirement for gymnasium education, 5th grade.

Our research was developed during the school year 2013-2014, during the period September 2013- June 2014. The work schedule is made up of specific athletic means with the help of which we want to prove the effectiveness of the differentiated treatment requirement implementation, effort differentiated dosage in order to optimize the resistance motion skill, for the 5th grade.

We scheduled the implementation of our program, according to the semester planning, thus, in the 1st semester in 4 lessons, during the weeks 9 and 10, and in the 2nd semester, between the weeks 33-38, in 12 lessons.

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The tasks observed in the development of the resistance motion skill are adapted to the manifestation forms detached from the planning documents for the subject of physical education and sports in the 5th grade.

Table 1-Example: Staggering lessons for development of resistance in the first semester

Lesson 1		Lesson 2		Lesson 3		Lesson 4	
Tasks							
Checking the driving ability initially to educate the general resistance		Development resistance		Increasing resistance development indices		Development of resistance to prolonged effort	
Group 1	Group 2	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Means							
Running 800m.		Running combined with slight changes in direction, slits, stops, turns, all done willingly or 2x3 professor signal-minute break for 3-5 minutes. Al. 1x400m in varied terrain, 60%.		Running on varied terrain, as competition 1x600m. Running with 50-75% change of pace diagonals football field, alternating with small side walk, 6 repeats		alternating running, walking and intensity 60-85% with mobility exercises alternating running 5-8 minutes	
Running 800m.		Running combined with slight changes in direction, slits, stops, turns, all done willingly or teacher signal, 2x2 minute break for 4-5 minutes. Running the 1x400m varied terrain, intensity 60%.		running on varied terrain, as competition 1x500m. Al. 50-60% change of pace with diagonals soccer field, walking side alternating with small, four repetitions		alternating running 5-8 minutes, intensity 60-70 % of gait and mobility exercises 6-9 minutes.	

III. RESULTS AND DISCUSSION

Based on the analysis of the results chart for the two groups in the initial test we notice that for the first value group the results are classified between 3.14 min. and 3.29 min., and for the second group performances between 3.29 min. and 3.41 min. are obtained, an average difference of 14 seconds

resulting. For the final test, the chart expresses a minor difference between the performances of those two groups, with certain intersections proving the closeness and even the positioning of four of the second value group performances at the level of those in the first group. The performances of the first group start from the level of 3.03 min. and stop at 3.19 min., while for the second group the best performance is of 3.10 min., and the weakest of 3.30 min. The average difference between the two groups is of 8 seconds, decreasing comparatively to the first test, where a difference of 14 seconds was recorded.

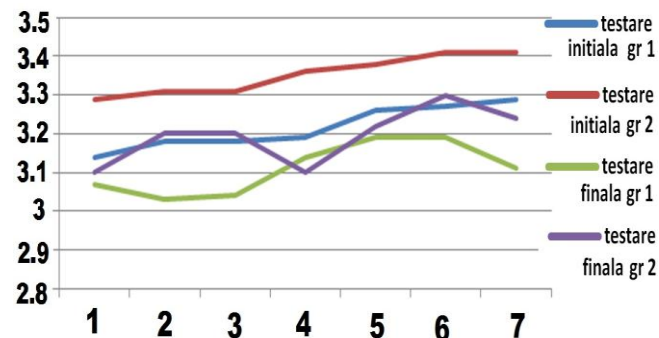


Figure 1 Dynamics results of the two groups during the experiment.

Based on the analysis of the difference between the averages we observe that between the two groups there is a difference of 14 seconds. The calculated value of $t=4.824$, shows us a significant difference between the two value groups, the signification recorded being determined for a value threshold of 0.001, therefore with a probability of 99.9%.

Table 2 The authenticity of the results obtained in the initial testing group to final testing.

Nr. crt.	Control indicators	First group (n=7) $\bar{X} \pm m$		Authenticity		Second group (n=7) $\bar{X} \pm m$		Authenticity	
		T	P	T	P	T	P		
1.	Running resistance 800m.	T.I. 3,216 ± 0,0215	T.F. 3,11 ± 0,0252	3,302 >0,01		T.I. 3,353 ± 0,0187	T.F. 3,19 ± 0,0238	5,379 >0,01	

Note: $n = 7$, the critical threshold 2179 is made up of the authenticity of 95%, $p = 0.05$ and $t = 3055$, for an authentication threshold of 99%, $p = 0.01$.

For the two value groups, between the two tests, we notice, based on the statistical-mathematical analysis, that significant differences were obtained for the 800m run test between the initial and the final test, as follows: for the first value group, the progress was of 11 sec. (see table 5), with $t=3.302$ for a veracity threshold of 0.01; for the second value group, the progress was 18 seconds. For $t=5.37$ for a veracity threshold of 0.001.

Both in the first value group and in the second value group we notice improvements of the resistance capacity, manifested in the 800m run control test. Whilst the first value group recorded a progress that we consider to be normal in the context of the training methods, the second value group records a higher progress than the first, explainable through the resistance motion skill optimization methods based on the differentiated treatment, but also through the motivational factor, which we consider to have an important role. The argument is that in the beginning of the experiment the participating students were informed that these groups were open, being able to be promoted from the second group to the first based on their effort during the lessons and concretized in the result to the control test in the final examination.

Table 3 -The authenticity of the final testing results between the two value groups

nr.crt.	Control indicators	First group (n=7) $\bar{X} \pm m$	Second value group (n=7) $\bar{X} \pm m$	authenticity	
				T	P
1.	Running resistance 800m.	3,11 \pm 0,0252	3,19 \pm 0,0238	2,299	>0,05

Note: n= 7, theoretical consisting of 2, 179 for authentication threshold of 95%, p=0.05 and t=3055, for an authentication threshold of 99%, p=0.01.

Between the two value groups at the final testing we noticed that the difference of the results averages for the two groups diminished from 14 seconds recorded at the beginning of the experiment, to 8 seconds at the final test, the difference between the averages being expressed also by the value of $t=5.379$ in the initial test, for a veracity threshold of 0.001, which diminishes in the final test to $t=2.299$ for a veracity threshold of 0.05.

IV. CONCLUSIONS

The running resistance development is a priority at the level of growing children and it is necessary to provide a particular attention during this period.

For pupils in puberty, resistance development must be performed on an individualized basis. We recommend the aerobic resistance exercises of average intensity. When training pupils aged between 14-18 we lay the stress on the general resistance and not on the special one. The methods in which the long term resistance is used, in a regular rhythm are recommended. Working with maximal and submaximal intensities should be avoided.

A conclusion based on personal observations and drawn from the teaching experience, that we signal for this framework, and having a methodic aspect, refers to the situation existing during the physical education and sports lessons, where no special attention is paid to the work for the optimization of resistance motion skill. We noticed that

gymnasium pupils were in regress, as compared to the previous years, from the point of view of certain aerobic capacity indicators.

Between the two value groups at the final test we noticed that the difference on the two groups results averages dropped from 14 seconds recorded at the beginning of the experiment, to 8 seconds at the final test, the difference between the averages being expressed also by the value of $t=5.379$ in the initial test, for a veracity threshold of 0.001, which diminishes in the final test to $t=2.299$ for a veracity threshold of 0.05.

In the second value group, at the final test, 4 of the pupils in this group achieved performances of the first value group level, fact that recommends them for promotion to the first value group, in the topic of optimization of the resistance motion skill, fact that confirms the research hypothesis.

We can state that following the differentiated treatment requirement implementation, by the differentiated dosage of the effort during the lessons having as topic the optimization of the manifestation level of resistance motion skill, significant progresses were made between the two tests, both in the first value group with a progress of 11 seconds, $t=3.302$, and in the second value group with a progress of 18 seconds, $t=5.379$. We recorded between the groups, at the final test, the diminution of the difference between the first group's components' results and the results of the pupils in the second group, four of the individuals in the second group being able to be promoted to the first value group (initial $t=4.824$ / final $t=2,299$). Our research hypothesis is thus confirmed.

The exercises composing the resistance development program are classified in the category of means specific to athletics, which, as sports discipline, contributes with priority through its exercises to the development of pupils motion capacity, fact demonstrated and sustained also by our research results.

We recommend the implementation of the differentiated treatment requirement in the lessons having as theme the resistance optimization, as well as the use of specific athletic means.

Also, we recommend the implementation of the differentiated treatment requirement and of the work per groups of bio-motion value level during all the lessons having as topic the optimization of the motion skills manifestation forms.

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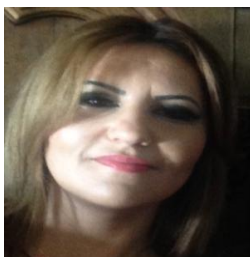
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International Competitions: „International Festival of grazing „, SPECIAL PRIZE, Feast of the Resurrection -'The prize I.