

*Translated from the original in spanish*

## **Activities system for the development of the physical capacity of endurance in the lessons of Physical Education**

### **Sistema de actividades para el desarrollo de la capacidad física de resistencia en las clases de Educación Física**

**Isaac Elizardo Crespo Cruz<sup>1</sup>, Zaily Armenteros Vázquez<sup>2</sup>, Pedro Lázaro Puentes Álvarez<sup>3</sup>**

<sup>1</sup>Dirección Municipal de Deportes Consolación del Sur. Pinar del Río, Cuba. E-mail: isaacrespo@nauta.cu

<sup>2</sup>Universidad de Pinar del Río "Hermanos Saíz Montes de Oca". Pinar del Río, Cuba. E-mail: zaily.armenteros@upr.edu.cu

<sup>3</sup>Ministerio de Educación Superior. La Habana, Cuba. E-mail: pedrolpa@mes.go.cu

**Received:** April 4<sup>th</sup>, 2018.

**Accepted:** January 11<sup>th</sup>, 2019.

---

#### **ABSTRACT**

The work that is presented gives an answer to the problem related with the development of the physical capacities, in particular, endurance, in the 8th grade Physical Education subject, for students girls. The objective is to design an activities system for the development of physical capacity of endurance during Physical Education lessons for the 8th grade girls of "Capitana Catalina Valdés" high school of Consolation del Sur municipality. There were used methods of the theoretical, empiric and statistical levels. The contribution to the theory is summed up in the systematizing of the theoretical foundations related with the formation and development of the physical capacities, with emphasis in endurance. Its practical significance resides in the implementation of the

activities system that is proposed. The validation of it is carried out through the long duration run of 11 minutes, objective of the program that is applied as pedagogic tests before and after the implementation of the activities system, measuring the behavior of each one of the dimensions and more affected indicators, what demonstrates the effectiveness of it. The general theory of the system was approached, based on the components and didactic laws, principles where the developer teaching learning process is supported, which leads to the integral formation of the students girls and to the quality life improvement.

**Keywords:** Physical education; activities system; endurance.

---

## RESUMEN

El trabajo que se presenta da respuesta a la problemática relacionada con el desarrollo de las capacidades físicas, en particular, la resistencia en la asignatura de Educación Física, del 8vo grado, sexo femenino. El objetivo es elaborar un sistema de actividades que contribuya al desarrollo de la capacidad física de resistencia durante las clases de Educación Física en las alumnas de 8vo grado de la Escuela Secundaria Básica Urbana «Capitana Catalina Valdés», del municipio Consolación del Sur. Fueron empleados métodos del nivel teórico, empírico y estadístico. La contribución a la teoría se concreta en la sistematización de los fundamentos teóricos, relacionados con la formación y desarrollo de las capacidades físicas, con énfasis en la resistencia. Su significación práctica radica en la

instrumentación del sistema de actividades que se propone. La validación de estos se realiza a través de la carrera de larga duración de 11 minutos, objetivo del programa que se toma como prueba pedagógica inicial y final, midiendo el comportamiento de cada una de las dimensiones e indicadores más afectados, lo que demuestra la efectividad del mismo. Se abordó la teoría general del sistema que se sustenta en los componentes y leyes didácticas, principios en que se fundamenta el proceso de enseñanza-aprendizaje desarrollador, los que conducen a la formación integral de las alumnas y a elevar la calidad de vida.

**Palabras clave:** Educación Física; sistema de actividades; resistencia.

---

## INTRODUCTION

The dizzying development of science and technology is a relevant phenomenon in our time. The great transformations required by today's Cuban society place in the foreground the need to introduce modifications to the cultural task in the different spheres of the economic, political and social life of our country. Education cannot remain on the sidelines of these changes, and therefore requires the ever-increasing preparation of men and women capable of facing the challenges that contemporary society imposes on the development of scientific knowledge and on the creative capacity to search for efficient solutions. MINED, (2008).

In the opinion of this work author, Basic Secondary Education, which for several years has been engaged in a

process of radical changes in its educational model, needs to adapt the new conditions in which the teaching-learning process is developed to the rest of the activities that take place in the current school model.

These transformations contemplate actions that make possible to raise the quality of student learning, not only from those teaching activities that have had a rich experience with excellent results, from the improvement of methodological work and the introduction of concepts such as that of prioritized subjects and modifications in the evaluation system; but also in Physical Education classes, this type of conception must be established in order to modify the state of development of the abilities

and physical capacities that must be achieved in each of the grades.

Specifically, in eighth grade, the process of development of students' physical abilities continues, as well as the development of sports motor skills and positive character traits that contribute to the formation of a multilaterally formed personality. (MINED, 2004).

The subject of Physical Education directs its objectives to satisfy the demands for the morpho functional and psychic development of the Basic Secondary students, in particular, for those who study the eighth grade, where the objectives, contents and its methodological structuring are in function of giving him the satisfactory answer and a practical materialization of the posed demands. Collective of authors, (2004).

Precisely, on how to develop the physical capacities and specifically the capacity of endurance in the students of eighth grade is centered the interest of the present work. According to Mijants et al., (2013),

"in a general sense, endurance is considered as the skill to make an effort for as long as possible, to withstand the fatigue that this effort entails and to recover quickly from it. The skill to withstand long-lasting stresses".

A study carried out by López Rodríguez, D. (2003), on the behaviour of physical skills in students in general and for the eighth grade in particular, reveals a deterioration in the development of the physical capacity of resistance with respect to results obtained in previous years.

In the work with the eighth grade students and as a result of the experience of the author of this work during the exercise of teaching the subject of Physical Education, for 10 years it has been possible to verify that, for the particular case of the students, the levels of development in relation to the physical capacity of endurance are not achieved.

In particular, in the Urban Basic Secondary School (ESBU) "Capitana Catalina Valdés" of Consolación del Sur municipality, the results achieved by eighth grade students in the systematic evaluation system and in the performance of the run tests show the existence of limited development in sports motor skills and physical capacities, specifically in endurance, which do not reach the levels of development required in accordance with the objectives to be achieved, according to the Physical Education school programme.

In order to further clarify this issue, it is emphasized that, in exploratory observations made to the classes, the implementation of the physical capacity of endurance represents the area that is most rejected in the school. Endurance is worked through basic gymnastics as a short, medium and long term run, its insufficiency in the organism is highly valued to such an extent that it becomes an essential element in the teaching of Physical Education.

However, traditional forms of teaching do not always attract students to practice the endurance run. After putting into practice the research instruments applied in this work, such as observation and the survey of students, it is determined that in many cases there is a total lack of knowledge of the importance of practicing physical exercise in order to educate the body

healthily, compete to get there first, make a better mark or time.

Obviously, it is not so simple to introduce exercises that break the routine of the practice of this capacity and that incite the students to raise the will in a conscious and more palpitating way that can contribute to the integral and educational physical development, when generally what usually happens is that the student likes games and collective sports more.

After analysing the deficiencies detected in the current situation of the students with regard to the development of physical endurance capacity and the results of the performance race and physical efficiency tests, the following study is undertaken with the aim of designing a proposal based on a system of activities for the development of physical endurance capacity during Physical Education classes, in the 8th grade students of the ESBU "Capitana Catalina Valdés".

## **MATERIALS AND METHODS**

In order to verify the research work, different research methods and techniques were used, including those related to statistics. This study is based on the general method of science, under the historical-dialectical-materialist approach, which allowed the object to be studied in its evolution and development.

Among the theoretical level methods were used: historical-logical; analytical-synthetic; inductive-deductive and systemic.

On the basis of the revision of all the official dispositions that regulate the work in teaching and attending to the demands of the diagnostic-research work, undertaken in the present work, different methods of the empirical level were used, such as:

Revision of documents: it allowed the analysis of curricula, programs, methodological orientations and other documents that contributed valuable information, directed to the search of the conceptual nuclei and the elements of knowledge on the practice of the resistance race, as well as to know the main difficulties presented by the

students in the practice of the above mentioned capacity.

Observation: it was applied with the objective of evaluating how the physical capacity for endurance is practiced, with what systematicity, motivation and will it is carried out, as well as the main methods and means that are used during its performance.

Interviews: to know the experience of the teachers on the physical capacity of endurance from the theoretical point of view until its practical treatment with developing character, during the classes of Physical Education.

Survey: its essence lies in applying a written questionnaire to female students in order to receive the information they provide and process it in order to arrive at conclusions. The aim is to find out the information, opinions and assessments of the students regarding the main difficulties in the practice of physical endurance capacity.

Pedagogical test: it was applied to the 8th grade female students of the ESBU "Capitana Catalina Valdés", in the

municipality of Consolación del Sur, to know the initial state of the behaviour of this capacity and the final state, after having applied the system of activities to contribute to the development of this capacity; the 11-minute long run was chosen in which the behaviour of each of the most affected dimensions and indicators was taken into account.

#### **Within the Statistical-Mathematical Methods were used:**

Descriptive statistics: for the processing of information in the interpretation of charts and graphs of the central tendency.

Percentage analysis: Where percentages are mathematically represented in graphs and tables.

#### **Unit of study and decision**

Population and sample:

In order to carry out this research, 142 female students of the 8th grade of the ESBU "Capitana Catalina Valdés", from Consolación del Sur municipality, were taken as the population, which represents 54 % of the enrolment of the grade and, from them, 58 female

students were selected as a sample, intentionally selected, based on the results of the diagnosis and the interests of the research, which represents 40.84 % of the population with the main characteristics of a. The population of the ESBU "Capitana Catalina Valdés", from the municipality of Consolación del Sur, which represents 54 % of the enrolment of the degree and, from them, the 58 female students were selected as a sample, based on the results of the diagnosis and the interests of the research, which represents 40.84% of the population with the main characteristics of: 15 are of mestizo skin; 7, of black skin and 36 are of white skin, with ages between 12 and 13 years. Most of them come from the locality where the school is located. Class attendance has been 97.1 %, they maintain a correct discipline and organization in sports activities, they have an appropriate political preparation according to their ages, since of the 58 students, 35 represent 60.3 %; they have a low mastery of the theoretical-practical knowledge about the importance of endurance as a physical capacity, in Physical Education and for the functional morpho development of the adolescent.

## **RESULTS AND DISCUSSION**

Conceptualization and operationalization of the dependent variable

The author assumes the definition proposed by Collazo, 2012, how: "man's capacity to resist physical and psychic exhaustion produces physical-sports activities of prolonged duration,

and which is conditioned by factors external and internal to him".

The dependent variable is the development of the physical capacity of endurance

The indicators for each of the proposed dimensions are presented below. (Table 1)

**Table 1.** - Diagnosis of the current state of the Development of the endurance physical capacity in the students

Variable	Dimensions	Indicators
Development of the endurance physical capacity	I-Internal factors.	Cardiovascular capacity. Development of muscular strength. Physical preparation of the students.
	II-Performance of the activity with physical exercises.	Keep up the pace during the activity. Tactics in the development of the activity to avoid fatigue. Normal breathing during this type of physical activity.
	III-Psychological effort	Achieve optimal concentration during the performance of the activity. Ability to self-regulate during the performance of the activity. Maintain a favourable motivational psychological state.

### Results of the exploratory study to ascertain the problema

In order to analyse the results of the techniques used, the indicators that measure the dimensions of the dependent variable were parameterised:

#### Dimension I

Internal factors

All indicators of this dimension will be evaluated as follows:

- Good (B). - When they manifest all those conditions in the activity.
- Regular (R). - When they manifest one of the conditions in the activity.
- Bad (M). - When they are never manifested in the activity.

#### Dimension II

Performance of the activity with physical exercises.

- Good (B). - If two of the indicators are shown favourably.
- Regular (R). - If one of the indicators is manifested favourably, and in another one of them it is sufficient with the accomplishment of some impulse of the teacher.
- Bad (M). - If at least one of the indicators is not shown favourably.

#### Dimension III

In this, it seeks to know the psychological behavior of students during the performance of the activity, therefore, it is considered:

- Good (B). - If two of the indicators are shown favourably.
- Regular (R). - If one of the indicators manifested favourably, and in another of them it is sufficient with the realization of some impulse of the teacher.
- Bad (M). - If no one indicators is shown.

It is valid to point out that for the parameterisation of the indicators it was convenient to rely on the proposal made by Dr. Calixto del Canto Colls in his doctoral thesis, (2000), which

made it possible to determine the essential characteristics of the object of this research in its evolution and development. (Table 2)

**Table 2.** - Analysis of the results in the initial pedagogical tests in a favourable way

Physical endurance capability test	Resultados			% Mal
	B	R	M	
Dimensions				
I-Internal factors.	13	40	5	8.6 %
II-Performance of the activity with physical exercise.	20	32	6	10.3 %
III-Personality psychological features.	30	27	1	1.7 %

In the analysis of the results in the initial pedagogical test, the author can state that in dimension I, Internal factors, 13 students are evaluated as B, since they show all the conditions in the activity; 40, as R, because they show one of the conditions in the activity and 5 students are evaluated as M, for a behavior of 8.6% as M, where the most affected indicators of this dimension were the (2) Development of muscular strength and (3) Physical preparation of the students.

In dimension II - Performance of the activity with physical exercises, 20 students were evaluated as B, since they show favourably two of the indicators; 32, as R, because they show favourably one of the indicators, and in another of them it was sufficient with the accomplishment of some impulse of the teacher, and 6 students were evaluated as M, what represents 10.3 %, where the indicators most affected were (1) To maintain the rhythm during the activity and (2) Tactics in the development of the activity to avoid fatigue.

And in dimension III - Psychological effort, 30 students were evaluated as

B, since they by showed two of the indicators favourably; 27 as R, because they showed one of the indicators favourably, and in another of them it was sufficient to have some impulse from the teacher, and 1 student was evaluated as M, what means 1.7 % as M; in this last dimension, the indicators that were most affected were (2) Capacity for self-regulation during the performance of the activity and (3) Maintaining a favourable motivational psychological state.

#### **Analysis of the observation made to the Physical Education classes**

During the observations made to Physical Education classes (10) for the development of the physical capacity of endurance, we could verify that the preparation of the teachers showed good results; in eight of them, it was good for 80 % and in two of them, regular, for 20 %.

In the second indicator observed, the results did not behave in the same way, since the use of methods for the development of physical endurance capacity revealed that in six of them it was good for 60 %; in three, it was

regular for 30 %, and in one, bad for 10 %.

In the third indicator relating to the quality of the planned exercises, it was found that in four it was good for 40 %, in three it was good for 30 % and in three it was bad for 30 %.

In the fourth indicator that deals with how the students carry out the exercises for the development of the physical capacity of endurance, it was found that in one they did well for 10%, in another, regular for 10% and in eight, bad for 80 %.

In the fifth indicator that deals with the participation of the students during the exercises for the development of the physical capacity of endurance, it could be observed that in two it was done well for 20 %, in three, two it was done regular, for 30 %, and in five it was done bad for 50 %.

In the sixth indicator that deals with the conditions of the implements and sports areas, it was observed that of the total of existing implements (87) only 38 are in good condition, which represents 43.67 % of that total; other 27 are in regular condition (they lack some type of attachment for effective use) and the rest (22) are in poor condition.

By tabulating the observations, it was possible to prove that, despite the fact that the teachers are not poorly prepared, there are objective and subjective conditions that undermine the development of physical endurance capacity during the selected unit of study.

### **Analysis of the survey of female students**

In the survey of female students (58), in the first question about whether

they like athletics in Physical Education classes, 19 like it, for 32.7 % and 39 do not, for 67.3 %.

The second question deals with whether they like work for the development of physical capacity; it was found that 16 do, for 27.5 % and 42 do not, for 72.5 %.

In the third question about the physical capacity that they least like to work, it was found that for 16, it is strength, for 27.5 % and for 42, it is endurance, for 72.5 %.

The fourth question deals with which is the physical capacity that presents greater difficulties; 18 expressed that it is the strength, for 31,0 %; nine believed that it is the rapidity, for 15,5 % and 31 that it is the endurance, for 53,5 %.

In the fifth question, which consisted of which was the most difficult physical capacity of endurance, 8 referred the one of medium duration, for 13.7% and 50 recognized the one of long duration, for 86.3 %.

In the sixth question on whether it is known the importance of correct physical preparation for their future life, 30 answered affirmatively for 51.7 % and 28 answered negatively for 48.3 %.

From the analysis carried out so far, it can be inferred that, when analyzing in detail the student surveys, there are difficulties, both with the motivation and with the knowledge they must have about the importance of this physical capacity and its contribution to the functional morph development of the organism and the contribution to the other capacities.

Also during Physical Education classes, when working on the development of



physical abilities, specifically endurance, a great majority of students state that they do not like the practice of this physical capacity, which corroborates the need to look for alternatives that favor motivation for its development and the way in which better results can be acquired.

### **System of activities to contribute to the development of the physical capacity of endurance during the classes of Physical Education, in the female students**

The system of recreational activities that is proposed has as a general objective: To contribute to the development of the physical capacity of endurance during the classes of Physical Education in the female students.

The specific objectives can be seen in each of the activities.

### **Proposed solution**

A system of activities is proposed in function of contributing to the development of the physical capacity of endurance, eminently practical, with certain functions and among its main characteristics are: the variety, creativity, motivation, weekly frequency (specifically the shifts of classes) and level of acceptance, in correspondence with the needs of the students.

#### *Structuring of the activity*

Title

Objective of each activity.

Methodology (general organisation, orientation, time).

Rules.

Evaluation.

### **General considerations of the direction of the process of**

### **development of the physical capacity of resistance**

The analysis of the multilateral character of the pedagogical process, in a general way, conditioned by the role of the teacher and the role of the students and the group, presupposes the unity between the role of direction exercised by the teacher and the activity of it. The teacher is presented as an organizer whose function is to stimulate, direct and control learning in such a way that the student is an active and conscious participant in this process, and in this way can learn in a productive and rational way, Sierra R. A., (2004).

From this perspective, the direction of the pedagogical process has been characterized by several authors as actions or activities of organization, planning, evaluation, among others. In this sense, the contributions made by Labarrere and Valdivia, (1988); Álvarez de Zayas, (1999); Rojas, C., (2005) and Cornejo López, others, (2010) stand out.

The theoretical assumptions underlying the system of activities are as follows:

- The unity of the affective and the cognitive.
- Activity according to needs.
- Differentiation of teaching activity.
- Motivation for teaching activity.
- Orientation towards teaching activity.
- The commitment of the students with the development of the process that summons them to the challenge of carrying it out.
- Interaction of the subject with the object

In order to comply with the process of capacity development proposed above, a thorough study of the theoretical and methodological referents such as the 8th grade program, the methodological orientations, as well as the transformations of the subject in the grade. Respectively, it is determined that the system of activities, which is proposed to promote the development of the physical capacity of endurance, is flexible, affordable, developing, motivator, integrator and very creative.

#### **Methodological indications necessary to apply the system of activities**

All the process of implantation of the proposal, counts on the direct participation of the author that Works with the group that is being researched, which has followed an order in all the components of the process for the development of the research.

The activities that are applied constitute the existing classification of this specific physical capacity (elements of the technique that serve as the basis for it are used).

The structure of the activity is adapted as follows:

Initial part (10 ´), all the elements are applied.

II. Main part (30 ´), from 15 to 18 elements are applied for sports skills, from 10 to 12 for the treatment of skills.

III. Final part (5 ´), recovery and evaluation of the activity.

#### **Proposal of the System of Activities:**

##### **Activity # 1.**

Title: How to eliminate distance by chasing other runners?

Objective: To run in relation to the opponent and his state of fatigue according to the time available in the objectives of the grade.

Methodology: Two teams are organized. Each team is located at one end of the track, one as a pursuer and the other as pursued, with a chase interval of 40 m., between the two. With a planned time of 7 to 11 minutes.

Rules: Every trapped runner passes to the opposing team and becomes a trapper.

Evaluation: 10 points will be given to the team that in the time it works as a chaser has managed to capture more members of the opposing team. If a team manages to catch all the members of the opposing team before the allotted time, the team will be stimulated with an extra score and the game will be restarted within the allotted time.

Means: Whistles, chronometers, cones, horizontal and vertical signals.

##### **Activity # 2.**

Title: Beat a record among several.

Objective: To run according to the time that passes and the companion, taking into account the working time of the objectives of the grade.

Methodology: Overcome, by team, the greatest number of laps in a given time (about 8-11 minutes., imposed or

mutually agreed by students and teacher).

A fixed number of runners must pass through the finish line, where the number of laps is counted.

Two runners for a team of six.

Three runners for a team of nine.

The runner-team relationship on track determines recovery times.

The 100 meters of the track will be divided into two, with two teams of runners at the start and another at 50 meters to perform the relay.

Rules: The essential thing is to pass grouped on the line, because the number of laps is determined when the last runner of the team passes.

Evaluation: The team that achieves the most laps in the established time will reach 10 points, complying with the above mentioned.

Means: Whistles, chronometers, cones, horizontal and vertical signals.

### **Activity # 3.**

Title: Reaching for the opponent's handkerchiefs.

Objective: to run according to the opponent and the degree of fatigue itself, taking into account the working time of the objectives of the degree.

Methodology: Two teams of runners, separated 25 m. from each other. It is consisted on taking the handkerchiefs of the adversary without letting herself take her own. They all turn in the same direction.

Rules: When an opponent is touched, she hands over the handkerchief and can try to retrieve it immediately; this means that the one who takes the handkerchief starts immediately. If the one who had to hand over the handkerchief recovers it, the one who initially took it cannot try to take it off again.

-The runner who has several handkerchiefs and who is touched gives only one.

Any abandonment of the run implies the loss of the handkerchiefs in her possession. Any abandonment of the run without handkerchiefs implies the counting of two more handkerchiefs for the adversary. The duration is 9 min.

Evaluation: At the end of the run the handkerchiefs won by the opposing team are counted; for each handkerchief won it will get 2 points. Means: Whistles, stopwatches, cones, horizontal and vertical signals.

### **Activity # 4.**

Title: Running as long as possible.

Objective: To run in function of the state of fatigue in order to keep running as long as possible in accordance with the times established for this capacity in the grade.

Methodology: Markings and route signs will be placed to allow students to control their markings. The run will begin at the sound of the whistle with a time of 10 min.

Rules: All the traditional situations of the long duration endurance run, with the need to respect certain principles. Draw the contracts of the run (individual or collective), establishing certain agreements on the stops. On such a distance, the run will be stopped

to walk only several times, until arriving in a progressive way and not making any stop.

During the run, the pace of the other runners is not taken into account. Each runs on the basis of her own needs.

Do not blow the whistle to achieve concentration on yourself and awareness of your possibilities.

Evaluation: the runner who keeps running at her pace for as long as possible will win, obtaining 10 points.

The runner, who walks 1 time in the established time, will reach 8 points; the runner who walks 2 times will reach 6 points and the runner who abandons the race will not obtain points.

Means: Whistles, stopwatches, cones, horizontal and vertical signals.

#### **Activity # 5.**

Title: Challenging my opponent.

Objective: to run, taking into account the opponent's possibilities between 7 and 11 minutes.

Methodology: One runner challenges another and both agree on a chase interval with a distance or time advantage.

Rules: A fast runner challenges a less fast runner, on the condition that the chase interval is sufficient to cast doubt on the outcome (whether or not the runner will reach it).

The challenger must see in this many possibilities to achieve it; although it may seem difficult, the challenger must be persuaded that she will be able to reach it, in two laps of the track.

Evaluation: The runner who reaches the finish first will win, scoring 10 points for her team.

The team with the most points will win.

Means: Whistles, stopwatches, cones, horizontal and vertical signals.

#### **Activity # 6.**

Title: Running in a team.

Objective: To run in teams, accumulating the most points in the established distance.

Methodology: Teams of three runners each will be formed and by drawing lots will be placed on the starting line. The competition will be of 4 laps in a track of 400 mts.

Rules On each lap, each runner scores points for herself and her team as she passes the finish line.

Evaluation The first to step on the line scores 6 points, the second 5 and so on.

The team with the highest score wins.

Means: Whistles, stopwatches, cones, horizontal and vertical signals.

#### **Activity #7.**

Title: Running, avoiding obstacles.

Objective: To overcome obstacles in the 1500-meter race.

Methodology: The teacher will place, every 50 meters, 4 fences of 25 cm. high, at a separation of 40 cm. in each one of them. It will be made in a track of 100 mts., in a stretch of 1500 mts.

Rules: It is necessary to cross over the fences in each route.

Evaluation: The students who best perform the exercise will be recognized.

Means: Whistles, stopwatches, cones, horizontal and vertical signals.

### **Activity # 8.**

Title: Running a distance in the shortest possible time

Objective: To regulate the run according to the distance, the potentialities of the students in order to carry it out, in the shortest possible time.

Methodology: The teacher will bring some times to the students and will give them a scale of evaluation of Good, Regular and Bad, then several teams will be made according to the groups of performance of physical capacities to which they belong; the competition will be of 3 laps, in a track of 400 mts.

Rules: It is not necessary to violate the space to cross established by the teacher and changes of equipment are not accepted.

Evaluation: The team with the best times with respect to the scoring scale conceived by the teacher will win.

Means: Whistles, stopwatches, cones, horizontal and vertical signals, flags.

### **Activity # 9.**

Title: The Unstable Guide.

Objective: To regulate the run, using different guides in a time of 11 minutes.

Methodology: The teacher will create teams of 4-5 students; in each of them, he will select a guide for the run; the groups will become related, that is to say, a group of the same physical capacity performance; each lap, when passing by the goal, the guide will be changed without interrupting the exercise. It will be done in a time of 11 minutes.

Rules: They can not change the team during the exercise performance, the guides can not be repeated.

Evaluation: The team whose guides effectively regulate the run will win.

Means: Whistles, stopwatches, cones, horizontal and vertical signals, flags.

### **Activity # 10.**

Title: Knowing Yourself

Objective: To regulate the endurance run, increasing, maintaining or decreasing, taking into account the work-rest relationship for this ability.

Methodology: On the same 400-meter track, the teacher places the students at the finish point, they will begin to perform the run at the teacher's signal; they must increase or decrease their rhythm, even decrease it, if their physical capacity requires it; they will make 4 laps of the track.

Rules: The students should not stop, according to the explanation of the teacher, during the performance of the activity.

Evaluation: The students who do it best will be recognized.

Means: Whistles, stopwatches, cones, horizontal and vertical signals, flags.

## BIBLIOGRAPHICAL REFERENCES

- Álvarez de Zayas, C. M. (de) (1999). La escuela en la vida. La Habana: Editorial Pueblo y Educación, I.S.P. Material Impreso. /Calixto%20del%20Canto%20Colls.pdf
- Colectivo de autores (2004). Motricidad. Libro de texto en soporte digital en el CD de la carrera para la universalización. Disponible en FTP. <https://www.ucp.lt.rimed.cu>
- Collazo Macías, Adalberto. (2012). Una propuesta alternativa para contribuir al desarrollo de las capacidades físicas en estudiantes entre los 6 y 11 años en el municipio Artemisa. *EFDeportes.com, Revista Digital*. Buenos Aires Año 17 N° 170 Julio de 2012. <http://www.efdeportes.com/>
- Cornejo López, Jesús et al. (2010). Programa de la disciplina Educación Física para las Universidades de Ciencias Pedagógicas. La Habana Cuba.
- Del Canto Colls, Calixto (2000). Concepción Teórica acerca de los Niveles de Manifestación de las Habilidades Motrices Deportivas en la Educación Física de la Educación General Politécnica y Laboral. Tesis en opción al Grado Científico de Doctor en Ciencias Pedagógicas. Instituto Superior Pedagógico "Enrique José Varona"; Ciudad de La Habana. <http://karin.fq.uh.cu/~vladimar/cursos/%23Did%20cticarr/Tesis%20Defendidas/Did%20ctica/Calixto%20del%20Canto%20Colls>
- Labarrere Reyes, G., G. E Valdivia Pairol (1998). Pedagogía. La Habana: Editorial Pueblo y Educación.
- López Rodríguez, D. (2003). El proceso Enseñanza Aprendizaje en Educación Física: Hacia un enfoque integral Físico Educativo. Editorial Deporte.
- Mitjans Torres, P.L.; Costa Acosta, J.; Madera, A. y Viladón, R. (2013). Características del desarrollo de la capacidad física de resistencia aeróbica en las clases de Educación Física en la Universidad de Pinar del Río. *EFDeportes.com, Revista Digital*. Buenos Aires, Año 18, N° 184, septiembre de 2013. <http://www.efdeportes.com/>
- MINED (2008). Modelo de Escuela Secundaria Básica. Versión 8. La Habana: Editorial Pueblo y Educación.
- MINED (2004). Programas y Orientaciones metodológicas octavo grado. La Habana: Editorial Pueblo y Educación.
- Rojas, C. (2005). Fundamentos del Modelo de Escuela Secundaria Básica: Material digitalizado. La Habana: Editorial Pueblo y Educación.
- Sierra Salcedo, Regla Alicia. (2004). Modelo Teórico para el diseño de una estrategia pedagógica en la educación primaria y secundaria básica. -Tesis presentada en opción al grado científico de Doctor en Ciencias Pedagógicas.

Instituto Superior Pedagógico  
"Enrique José Varona"



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0  
International license  
Copyright (c) 2019 Isaac Elizardo Crespo Cruz, Zaily Armenteros Vázquez, Pedro  
Lázaro Puentes Álvarez.