

## ***Independent work and its direction, from knowledge management in Physical Education***

### ***El trabajo independiente y su dirección, desde la gestión del conocimiento en la Educación física***

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#### ***ABSTRACT***

To improve Physical Education, it is necessary to strengthen the preparation of teachers. According to the bibliographic review and the empirical study carried out, insufficiencies are observed, related to the lack of knowledge of many teachers on how to direct independent work in classes. The scientific problem focused on how to contribute to the preparation of teachers for the management of independent work. Teaching tasks are proposed for preparation from knowledge management. Research methods at the theoretical, empirical and mathematical levels were used. The proposed teaching tasks promote the preparation of teachers to direct this process.

#### ***RESUMEN***

Para perfeccionar la Educación física es necesario fortalecer la preparación de los profesores, según la revisión bibliográfica y el estudio empírico llevado a cabo, se aprecian insuficiencias, relacionadas con desconocimiento de muchos profesores en cómo direccionar el trabajo independiente en las clases. El problema científico centrado en cómo contribuir a la preparación de los profesores para la dirección del trabajo independiente. Se proponen tareas docentes para su preparación desde la gestión del conocimiento. Se utilizaron métodos de investigación, del nivel teórico, del empírico y del matemático. Las tareas docentes propuestas propician la preparación de los profesores para dirigir este proceso.

#### ***Keywords***

Knowledge management; Independent work; Physical education; Teaching tasks.

#### ***Palabras clave***

Gestión del conocimiento; Trabajo Independiente; Educación Física; Tareas docentes.

## INTRODUCTION

Raising the preparation of students at any level of education is an essential requirement of the Cuban Educational System, so each teacher or professor has the responsibility, in his or her pedagogical work, to ensure that students are formed with a spirit of independence in the search for new knowledge and the ways to achieve their self-activity, becoming an active subject of their own learning, to the extent that they learn to build and apply the acquired knowledge.

It is important to highlight that the educational teaching process takes place in a constantly changing environment, including the new social value of knowledge, discoveries in the sports field and the search for information, which make it necessary to incorporate them into the work of the Physical Education teacher.

Based on the author's own experience, as well as surveys and interviews carried out with teachers, methodologists, coordinators and advisors, plus the review of the control of the methodological activities of the heads of area, it was found that, even the preparation of Physical Education teachers is insufficient for the direction of independent work and that, on the other hand, this subject is a national demand due to the improvement of the study programs, which reaffirms its value and relevance.

Thus, limitations associated with the direction of independent work were found, among which are:

- The planning of knowledge activities, with a developmental character, is still insufficient, although an attempt is made to develop the independence of the students, but the questions remain at the reproductive level.
- Insufficient use of the books of the different didactic units worked on, for the treatment of independent activities.
- Insufficient guidance, by the teacher, of the activities for the treatment of independent work, the treatment given to independent work, in the subject group is not the most appropriate.

Identifying these limitations we arrive at ruling out the problem in question: how to contribute to the preparation of Physical Education teachers in Upper Secondary Education for the direction of independent work, from the management of knowledge?

Therefore, the objective of this research is defined as: to develop teaching tasks with an integral physical-educational approach, which promote the development of skills in Physical Education teachers in Upper Secondary Education for the direction of independent work, from the management of knowledge.

The research carried out shows that for the practical application of independent work, it must be constantly attended to from the beginning of the teaching-learning process in all subjects. La determinación de la situación, en que actualmente se encuentra la preparación de los profesores The aim of the study to guide independent work in Physical Education classes, from a knowledge management perspective, was to carry out a diagnosis carried out in the Higher Secondary Education in the Guantánamo municipality.

## **DEVELOPMENT**

The problem of independent activity of students, and the means for its structuring, has a rich and extensive tradition in Cuban pedagogical theory, as an important legacy for today.

Thus, it is found that in the pedagogical work of illustrious teachers such as Martí, de la Luz and Caballero, Varona, Varela, Mendive and others reflect the need to develop children's intellectual faculties in the teaching-learning process, teach them to think, observe phenomena, the use of active methods, in addition, they proclaimed the unity of instruction and education, a legacy that continued to develop throughout the 20th century, reflected in the work of pedagogues such as Aguayo (1943) who wrote a Didactics of the New School, and González (1946) who published, Didactics or direction of learning with the focus of the New School movement.

This is why Cuban educators from the middle of the last century and the beginning of the present century have been concerned about the development of the different trends mentioned and have in fact taken them on board in their research work, reflected in the works of Labarrere (1988), López (1982), Zayas (1992), Silvestre (1998-2000), a group of ICCP researchers (1982), as well as the Guantanamo natives Osoria (2003) and Columbié (2008); who, among others, have contributed ideas and strategies for dealing with independent work.

This analysis shows that independent work is not a new issue in the universal school, nor in the Cuban one, only that in the country the legacy of each of these educators mentioned became a reality after January 1, 1959, where teaching has as its objective the formation of the integral personality in the new generation. Based on the above, it can be noted that the Third Improvement of Education in Cuba brought about, as a consequence, that the programs and methodological orientations of the different didactic units of Physical Education underwent considerable changes, as demonstrated by the inclusion of objectives that involve the student more in his or her own training, illustrated by the possibility of autonomously developing a

general warm-up, using information and communication technologies to expand knowledge related to healthy physical condition and the chosen sport in a guided manner.

What is independent work?

In the literature there are different ways of conceptualizing independent work without finding extreme differences between them. According to this, there are various definitions, of which the following are considered the most significant:

- ...when the student can correctly relate the task statement with the methods to follow to carry it out, when he can apply his knowledge and abilities to carry it out without the need for the teacher to intervene directly to guide each detail, it is that which is carried out without the direct participation of the teacher, but with the guidance of the same, in an established time and during which the students consciously strive to achieve the objectives set, manifesting in one way or another the results of their physical or mental activity (or both). (Taken from Ecured.cu)
- ...when the students adequately coordinate ideas, applying the knowledge they have, the developed abilities and their creative activity to the solution of problems without direct help from the teacher and with timely and adequate guidance. (Varona Magazine # 8 Page 47-48)
- Set of activities of the students, without the direct intervention of the teacher to solve tasks proposed by him in the educational teaching process. (National Seminar February 1982)
- The means of including students in independent cognitive activity, the means of their logical and psychological organization (Pidkasisty, 1986)
- It is the way of organizing the teaching-educational process, aimed at the formation of independence, as a characteristic of the student's personality (Zayas, 1999)

These and other definitions have been addressed by different authors, but most value the one by the Russian P. Pidkasisty as the most accurate.

Although the positive elements of all these definitions of independent work are taken into account, the one by Dr. Alvarez de Zayas is assumed, which explicitly states that it is a method of work that is both reproductive and creative, which is the methodological aspect that concretizes the cognitive independence of the student in the educational teaching process, a way of organizing it for the development of independence.

Independent work is like a method, a way, a procedure that, based on its correct conception, guarantees that the student studies independently by using different sources that allow him to develop his cognitive independence, given the capacity he has for his performance in learning, issuing criteria, judgments, reflecting and reaching his own conclusions.

Although there is a wide range of types of independent work and this is good for knowledge and for making a selection in accordance with the objective pursued in each form of organization, the opinion of Professor María Victoria Chirino (2001) is shared, which states that these classifications do not provide the essential elements of independent work that allow its didactic structure, but it is favorable to know it.

The structuring of independent work. Its character as a system

Independent work must be structured as a system, so its concretion must occur through a system of tasks in which the academic, work and research components are interrelated.

The system of tasks must stimulate the development of the psychic processes that intervene in learning, that is, the neuro-perceptual processes, motivation, memory, thought processes, as well as work procedures and strategies.

It must contribute to the student progressively assuming a way of professional action in which commitment, self-awareness, independence and creativity are evident. The features that distinguish the system of independent work tasks in a developmental conception of teaching learning are:

- Problem-solving character with a scientific research approach. Tasks must pose contradictions between what is known and unknown to the students, between what is achieved and new demands, between what is explicit and what is implicit. This transition from the known to the unknown, which includes the system of knowledge, the system of habits and skills, the rules of relationship with the world and the experience of creative activity from reproduction to creation, allows reaching a new phase of development.
- There are different types of teaching tasks (Silvestre, 2000) to guide students, among which are:
- Tasks that contribute to the perception and understanding of the content of teaching aimed basically at the reproduction of knowledge: answering questions about the content found in the book of the different sports or teaching units, preparing content sheets.

- Tasks that require the application of knowledge and the development of reflective thinking: operating with models, symbols, diagrams, hand signals or with flags. • Tasks that require creation with greater cognitive independence: conceiving a plan to analyze or present material, operating with definitions, preparing a report or presentation and presenting it to the rest of the classmates, evaluating a fact or information, raising or solving a problem, arguing or justifying criteria or approaches, comparing points of view, phenomena, processes and arriving at own conclusions.

These types of tasks must be taken into account when designing the independent work of students so that they are instructed, educated and developed during the teaching-educational process, thus increasingly enriching cognitive independence.

Projection of teaching tasks.

The teaching task is the fundamental cell of the class, through its application the declared formative achievement is fulfilled.

What is a teaching task?

Numerous authors have addressed and given their opinion on the subject, such as: Zilberstein, (2000) Vargas, (2008), Álvarez, (1999) Ferre, (2012), among others, but they all revolve around this:

“that activity where the actions and operations to be carried out by the student in class and outside of it are specified, linked to the search and acquisition of knowledge and the development of skills” (Silvestre, Zilberstein, 2000), this correct definition of both is assumed because it is considered to be the one that develops study skills, inside and outside of class, for the acquisition of new knowledge.

It is important to point out that a class should have the least amount of teaching tasks; the teacher should seek, from his creativity and own style, the way to project his teaching tasks with an integrative conception.

A set of teaching tasks and their corresponding procedures to apply them are proposed.

For the above reasons, it is considered that to direct independent work, a logical structure organized by actions mentioned below must be in place.

Actions to structure independent work.

#### 1. Planning.

- Diagnosis of the needs of the group and of the students (collective and individual).
- Determining the objective(s).

- Selection of tasks, actions and their didactic structure, highlighting the levels of assimilation and their differentiating character.
- Determining the bibliography and its necessary and sufficient orientation.
- Determining indicators for evaluation, self-evaluation and control.
- Promoting the creation of a pleasant psychological climate.

## 2. Orientation.

- Updating the conditions of the group and of the students individually. Creating an adequate emotional atmosphere in the group.
- Orientation of the objective(s) providing the required guiding basis.
- Explaining the system of activities, conceived in the plan, with their corresponding actions.
- Carrying out demonstrations, if necessary. Observing the differentiating character of the exercises.
- Asking the students for criteria for their enrichment.
- Propose group dynamics and indicators for their fulfillment.
- Capture the necessary and sufficient bibliography.

## 3. Execution.

- Follow-up of the diagnosis, the state of the group and the students.
- Systematic and timely consultations.
- Provide feedback on the guiding basis of the action.
- Involve the students so that they use knowledge independently and creatively.
- Achieve the interrelation of the students.
- Promote the use of group dynamics and roles.
- Create the conditions and an adequate emotional atmosphere.

## 4. Control and evaluation.

- Systematic, timely and in each action.
- Follow the logic of the orientation. Create interactions between the students.
- Create the conditions and an adequate atmosphere.
- Include control, self-control, collective and individual self-assessment.
- Include grading, whenever relevant.
- Group and individual feedback. Stimulating student outcomes.

## Task Module

- Task #1 I research and learn about teaching units.
- Task #2 My physical condition.
- Task #3 Physical education in Cuba.

## Estructura de las tareas

- |                 |                          |                                          |
|-----------------|--------------------------|------------------------------------------|
| 1. Task number. | 5. Responsible person.   | 9. Methodological guidelines.            |
| 2. Title.       | 6. Participants.         | 10. Importance of the task.              |
| 3. Objective.   | 7. Duration of the task. | 11. Example of the task to be developed. |
| 4. Place.       | 8. Procedures.           | 12. Bibliography.                        |

## Teaching task #1: "I research and learn about teaching units." (Athletics)

Objective: to research which events make up Athletics, as well as to describe and demonstrate technical aspects of the different events.

Contribute to the use of different scientific sources such as books on different sports or teaching units, encyclopedias, educational software, among others.

Location: Sports facility.

Responsible: Physical Education teacher. Participants: Students.

Duration of the task: 45 minutes.

## Procedures.

The research tasks that the students will carry out are oriented.

1. Groups of four, five and six students are formed in correspondence with the class enrolment and the interest of the teacher and the students.
2. The research tasks that the students will carry out in the different teams are oriented and a necessary and sufficient explanation of the use and employment of the bibliography is provided.
3. The results of the research tasks are presented during the development of the classes. Here, it is necessary to achieve that the majority of the students in the different teams present their arguments and evaluations of the tasks, as well as to demonstrate in a practical way what was investigated.
4. Evaluate the result of the research tasks based on control, self-control, evaluation and self-assessment.

Use of the task: in any form of organisation to measure the fulfilment of the objectives proposed essentially in practical classes, at the conclusion of a topic that requires the independent elaboration of the content and its practical application.

Importance of the task.

- It enables the development of content based on the use of different scientific sources, developing research skills.
- Students learn to work with updated media, whether in the library or in information and communication technologies.
- It contributes to the planning of actions based on the analysis of different sources.

Example of tasks to be developed:

Flat sprints (100 meters, 200 meters, 400 meters); Middle distance races (800 meters and 1500 meters); Relays (4x100 meters, 4x400 meters); High jump, long jump, pole vault, triple jump  
The 100-meter race is one of the most attractive in Athletics. In it, athletes try to cover 100 meters in the shortest time possible.

Bibliography. Ecured, Athletics volume I and II of Ozolin, The IAAF guide to teaching Athletics

Task # 2: “My physical condition”.

Objective: investigate which concepts are related to physical capacities, their benefits for health and prepare autonomous practical sessions of physical exercises to develop the different physical capacities.

Contribute to the use of different scientific sources such as books on different sports or teaching units, encyclopedias, educational software, among others.

Location: sports facility. Person in charge: Physical education teacher.

Participants: Students. Duration of the task: 45 minutes.

Procedures.

The research tasks that the students will carry out are oriented.

1. Groups of four, five and six students are formed in accordance with the class enrollment and the interest of the teacher and the students.
2. Orientation of the research tasks.
  1. State what the conditional physical capacities are
  2. Express the concept of each of them
  3. Choose exercises for the different muscular planes to work on the physical capacity of fast strength

3. The results of the research tasks are presented during the development of the classes. Here, it is necessary to achieve that the majority of the students in the different teams present their arguments and evaluations of the tasks, as well as demonstrate in a practical way what was investigated. Possible answers (Strength, speed and endurance)

Endurance. It is the physical quality that allows us to withstand and endure an effort for the longest time possible.

Ability to perform a certain effort of a certain intensity for as long as possible and in an effective manner.

Exercises: planks, sit-ups, squats with jumps, frog jumps, flexion and extension of arms with weights

4. Assess the result of investigative tasks based on control, self-control, assessment and self-evaluation.

Use of the task: in any form of organization to measure the fulfillment of the objectives proposed essentially in practical classes, at the conclusion of a topic that requires the independent elaboration of the content and its practical application.

Importance of the task.

- It enables the elaboration of content based on the use of different scientific sources, and develops research skills.
- Students learn to work with updated media, whether in the library or in information and communication technologies.
- It contributes to the planning of actions based on the analysis of different sources.

Example: it is recommended to use this technique when addressing task # 3 in the following topics. Objectives and tasks of physical education in Cuba.

Directions for the formation of the personality of students.

Objective of the class: analyze the objectives and tasks of Physical Education with a view to contributing to the development of personality in students.

Tasks to be developed in the classroom.

Bring to the classroom research tasks such as:

1. Research the objectives, content and general guidelines for the tenth grade in a specific teaching unit of Physical Education.
2. Analyze the tasks that can fulfill these objectives.
3. Describe the methodology for performing 100-meter sprint races.

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### Specific bibliography

The way in which the activity will be carried out is explained in detail, as well as a broad orientation of the following literature:

1. Physical Education Program for tenth grade and Methodological Guidelines for Physical Education for tenth grade
2. Physical Education Program for eleventh grade and Methodological Guidelines for Physical Education for eleventh grade
3. Physical Education Program for twelfth grade and Methodological Guidelines for Physical Education for twelfth grade

Clarifications for Physical Education.

The teacher, as the representative of the task, must provoke discussions and reflections among the students, who issue arguments, examples and solutions for the actions carried out. At the end, each team is given an evaluation in which it is participatory and where self-control and self-assessment of their own actions are manifested.

### CONCLUSIONS

The analysis of the theoretical conceptions of the problem allows us to understand the different positions that have existed regarding independent work and the position of the student and the teacher in the teaching-educational process. A practical proposal is presented, through teaching tasks with an integral physical-educational approach in Physical Education classes, which promote the development of skills in teachers for the direction of independent work, from the management of knowledge.

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