

Levels of support for environmental management in the Bachelor's Degree in Physical Culture

Yarina Vázquez Pérez^{1*} <https://orcid.org/0000-0003-0302-6882>

Carlos Moreira Carbonell¹ <https://orcid.org/0000-0001-6650-0436>

Yamilé García Bonnane¹ <https://orcid.org/0000-0003-3542-4965>

¹Universidad de Guantánamo. Cuba

*Autor para la correspondencia: yarinavp@cug.co.cu

ABSTRACT

The present work addressed levels of support for environmental management. The objective is to offer levels of support for environmental management in the Physical Culture degree program. Theoretical and empirical methods were used to obtain information on the investigated topic and served as support for the levels of assistance for environmental management in the Physical Culture Degree program. The results achieved demonstrated its validity as a didactic way, which helps environmental management in the Bachelor's Degree in Physical Culture.

Keywords: Didactic orientation; Levels of help; Environmental management.

Introduction

At present, there is a growing concern for the conservation of the environment, which is why several authors have made incursions into topics related to environmental problems, among which are the works of Valdés (1995); Novo (1996); McPherson (2004); Bosque (2005); Merino (2007) and others.

Because of the importance of environmental management, it constitutes one of the topics that requires research due to the need to protect the environment in its application of the Cuban environmental policy established through a multidisciplinary approach, taking into account the cultural heritage, accumulated experience and citizen participation.

Authors such as Roberts and Robinson (1999); Rodríguez (2000); García (2008) and Bolsan and Pol (2009) consider it as the set of activities, mechanisms, actions and instruments aimed at guaranteeing the administration and rational use of natural resources through the conservation, improvement, control and monitoring of human activity.

In order to achieve the above, there is an urgent need to qualitatively raise the preparation of teachers at the levels of assistance, because didactic aids constitute strategic actions that make possible the improvement of teaching practice, through the use of the educational potential of the content of classes for the teaching-learning process of environmental management, so as to contribute to the decision making of students in the solution of environmental problems in their social practice.

In correspondence with the previous ideas, the objective is to offer levels of support for environmental management in the Bachelor's Degree in Physical Culture, so as to favor the didactic-methodological preparation of teachers for the achievement of this objective.

Development

In the development of the research, theoretical methods were applied, such as the historical-logical, in the study of the orientation towards environmental management, as well as in the systematization of the theoretical references related to the investigated problem; the analytical-synthetic in the process of bibliographical revision with the objective of analyzing and extracting, in a synthetic way, the theoretical foundations to take into account in the didactic orientation for the levels of assistance in the process of environmental management of the Physical Culture degree course.

The modeling facilitated the preparation of the Manual towards the orientation of environmental management, for its application in the Physical Culture career.

Orientation towards environmental management

Didactic guidance is defined by Cisneros (2005) as:

Process and category of language didactics. He argues that it is a process concomitant to professional training, not only because of its relationship, but also because of its intention. It is structured with aids that constitute its center, a procedure of intervention and the form of teaching with formative intentions, between the latter a relationship is enhanced (p. 43).

- According to the aforementioned author, in the field of training, it is understood as - pedagogical-instructive representation, carrier of a philosophical and psychological paradigm, which embraces the trainer and the trainee in a humanistic didactic posture, in which it means, from the levels of practical-cognitive, practical-valuative and practical-transformative aids. In this order, the aids, which constitute its center, establish relationships with other components used with formative intentions and which are proposed in the structure of the didactic orientation.
- In this research, we consider the levels of aids proposed by Cisneros (2005), which: "(...) constitute didactic aids based on analysis techniques, a didactic complex and a system of didactic orientation with a professional perspective" (p. 43).
- They are contextualized in correspondence with the didactic and methodological requirements of the preparation of teachers for environmental management in the Bachelor's Degree in Physical Culture. They depend on the situations of help differentiated in the orientations, as a systematic and dynamic process of stimulation of the personalized learning of teachers, in which the needs of help are discovered and recognized, which the teacher requires at a given moment, so that he/she can successfully carry out environmental management.
- The purpose of the orientation towards environmental management is to guide and help people, whether they are parents, families or students, to develop and achieve their personal self-realization in the process of environmental management based on procedures leading to the integral management of the environmental system, discovering their possibilities, capacities, as well as the tools to make their own decisions in a correct way, in order to minimize the risks and adverse impacts that may affect the environment.
- Environmental management constitutes the set of activities, mechanisms, actions and instruments aimed at guaranteeing the administration and rational use of natural resources through the conservation, improvement, rehabilitation and monitoring of the environment and the control of human activity in this sphere, aware of the role that corresponds to

educational institutions, specifically the university, with the purpose of training committed professionals who respond to the demands of sustainable development.

- In order to dynamize the process of orientation towards environmental management, levels of help are offered to guide the didactic-methodological procedure of the teachers of the Physical Culture Degree course in environmental management, as a way out of the Curricular Educational Strategy of Environment during the class.

- This enriches the preparation as a decisive element in every process, since it includes all the programmed activities, collective and individual, where the teacher acquires the necessary elements to develop his work, aimed at perfecting advanced experiences together with the achievements of science and technique.

- The levels of help are erected towards individual and professional improvement and can be developed in continuous training, which makes possible a better treatment to the environmental curricular strategy, which should address environmental contents in link with the environmental management instruments, as a response to the Cuban environmental policy, which is executed through the environmental management instruments. They are:

- The National Environmental Strategy, the National Program of Environment and Development and the other programs, plans and projects of economic and social development.

- Law No. 81 of 1997 of the Environment, its complementary legislation and other legal regulations destined to protect the environment, including the technical norms in the matter of environmental protection.

- The environmental ordinance.

- Environmental education.

- Scientific research and technological innovation

- With the levels of assistance towards environmental management, it contributes to orient and direct the link of the environmental contents of the disciplines with the instruments of environmental management, from an integrating approach and with a sociocultural, experiential and contextual perspective. A close relationship is established between the theory of environmental management and the sociocultural, experiential and contextual practice.

The above favors the preparation of teachers for the creation of an environment conducive to environmental management, in the achievement of a common goal, in a systematized,

intentional and conscious manner. Thus, the levels of support, as a didactic way for the dynamics of environmental management in the Bachelor's Degree in Physical Culture, contributes to logical reasoning and decision making in the exercise of the profession; hence the link between the theory of environmental education and the practice of management in the teaching-learning process.

This is shown in figure 1 below.

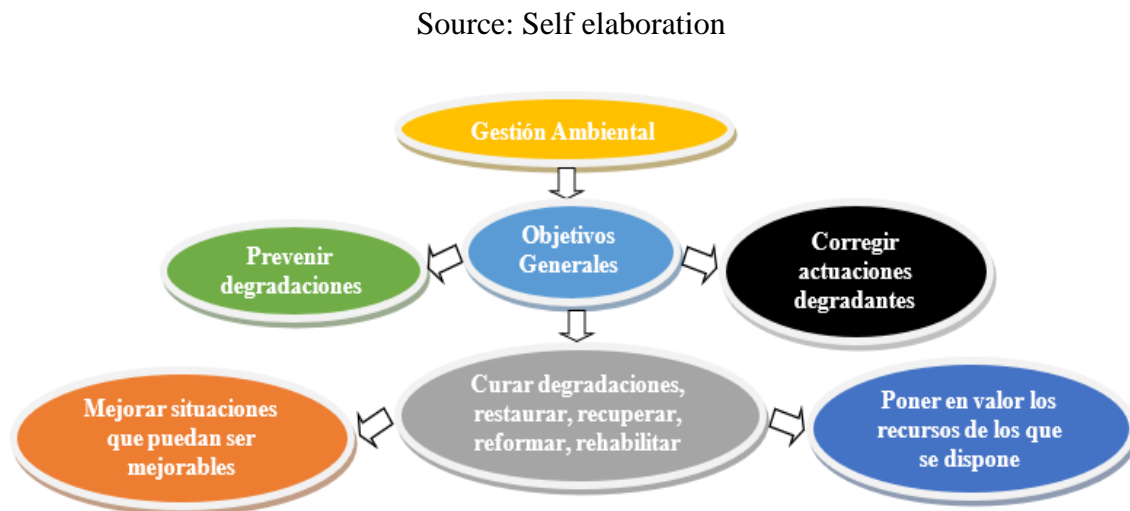


Figure 1: Guidance for environmental management.

The implementation of the levels of support for environmental management must take into account the characteristics of each program:

- Teachers' level of preparation: the work objectives respond to the level of familiarization.
- Students' level of preparation: the work objectives respond to the application level.
- Formative level: the work objectives respond to the level of application and creation.

It is also considered necessary to ensure the observance of:

- The methodological work plan.
- The lesson plans.
- The disciplines and subjects.
- The educational project of the subject.

- The methodological scientific work.

For the implementation of the levels of assistance it is important to start the class with a brief commentary on the previous class, develop the orientation towards the objective, the generalization and systematization of knowledge with the objective of guaranteeing the solid assimilation of the contents, the development of the students' skills and habits and conclude with the control as an essential element of the teaching process that guarantees the supervision of the student's achievement, through this activity the results of the class are checked on the basis of the requirements set forth in the teaching plan.

In the orientation towards environmental management, the teacher, starting from the levels of assistance, integrates environmental contents in close relation with the instruments of environmental management, appropriates didactic and methodological procedures that favor the students' decision making, in the process of environmental management.

It is up to the Physical Culture teacher, as a mediator, to apply levels of help as stimulating options that favor reflective thinking based on affective experiences and cognitive actions that lead to the expression of scientific and objective judgments and evaluations related to their interests and needs. Thus, in the orientation towards environmental management, levels of help should be offered at three fundamental moments:

1. **Before the class.** A whole planning process takes place in order to guide the student in the search for previous information on environmental management that will be of great help to discuss the subject. In this level of help, starting from the study program, the teacher searches and studies the documentary sources (programs of the education he/she attends, the methodological tools that allow him/her to guide, organize and control the teaching and learning process, as well as the instruments of environmental management and its objectives).

Based on the sources studied, diagnoses the preparation needs, plans the content and develops the curricular learning strategy integrated to the contents of the program and the time available to guide and treat Environmental Management within the class.

In the same way, it designs the objectives directing them towards environmental management, plans the activities and tasks for the achievement of the objectives with different degrees of difficulty taking into account the unequal possibilities of the students and, selects the means to be used during the class in correspondence with the content, as

well as the methodological recommendations that will help the student to solve the teacher's indications..

2. **During the class.** There is a whole process of communication, introduction and orientation of the content, where the teacher will have to introduce different ways of proceeding through methods such as the use of problematic situations, questions and tasks, joint elaboration, exploiting participatory techniques, such as brainstorming, sentence completion and group dynamics, among others.

The presentation of concepts has a starting point so that students focus their attention on the content of the orientation they are receiving; in order to orient; the teacher must start from what is known and rely on content and skills already achieved. Encourage the development of research on environmental management and its impact on sports, and the orientation process should not end without first verifying that the objectives have been met.

3. **After the class.** A whole process of post-class supervision of the oriented content takes place. Cognitive strategies should be considered to monitor the results of the process. This involves summarizing; asking and answering questions and conducting research.

At this level of assistance, it should be checked if the proposed objectives were achieved, if the way the class was organized contributed to the active participation of all students in the process of assimilation of the content, always checking What did the class contribute to the formation of habits, standards of conduct and ideological convictions? Did the students consolidate the learning results? Was the control and evaluation used continuously and as a means of encouragement? These questions will allow the teacher to evaluate the results of what has been oriented.

Example: Based on the syllabus of the subject Functional Morphology and knowing that it opens the biological cycle and lays the foundations for the study of the human organism in interaction with the surrounding environment, the teacher can insert the curricular strategy of the environment in Topic I. Introduction to the study of the human organism:

Introduction to the study of the human organism, whose objective is to relate the structure and function of the main organs of each system taking into account the functioning of the organism as a self-regulating whole, in close relationship with its environment and the bioadaptive changes that occur as a result of the performance of physical activities.

How to do it? When describing each organ system, the teacher inserts, based on the instruments of environmental management and the content of the class, the questions previously planned before the class:

What is understood as the surrounding environment?

What is understood by environment?

Which elements of the surrounding environment can affect a certain organ system of the human being?

What can we do to minimize these effects?

How do we carry out an adequate environmental management?

These questions will facilitate the students to arrive at deductions on the subject and from the joint elaboration, to form concepts.

The teacher can pose a problematic situation to encourage discussion by the students and from the different interventions organize teams and guide the research, it is important that the teacher achieves the participation of all students, based on the individual characteristics of each one:

- If a student draws, use it in the making of illustrations where he/she can illustrate experiences of the environment where he/she lives or works and interpret it in the group.
- The more advanced students can use it in scientific research on environmental management, environmental education and other topics to determine the main deficiencies both in the Faculty of Physical Culture and in the communities. And in this way we are orienting and giving treatment to environmental management.

Once the levels of help for environmental management were applied in the methodological preparation of teachers, 10 teaching activities were observed with the objective of: verifying the level of preparation of teachers in the application of these levels of help in the teaching-learning process of the Bachelor's Degree in Physical Culture. The results were expressed in the students as follows:

95% of the students became aware of the importance of caring for and protecting the environment for sustainable development. This was demonstrated in the exercise of their work practice.

98% of the students know how to apply the instruments of environmental management in their future professional work.

96% of the students were not only able to determine the weaknesses that hamper the development of the environmental management process, but were also able to find a way out of it through their sports practice.

97.5% of the students became familiar with and applied the different theories governing environmental management in their sphere of action.

95.6% of the students were able to apply the indicators that measure the environmental management process in different communities. This made it possible to obtain information and propose concrete actions for the development of this process in the communities where they work.

98% of the students acquired knowledge of the normative documents that govern the environmental management process. This favored their individual and collective preparation for their application in professional practice.

100% of the students were able to establish a better link with the activities planned for the development of the life task.

In general, it can be affirmed that the levels of support for environmental management contribute to the improvement of the teaching-learning process and to the preparation of students of the Bachelor's Degree in Physical Culture for environmental management in their future professional performance.

Conclusions

The application of the levels of assistance to environmental management benefits the creation of a contextualized environment in the process of environmental management, through the exchange of experiences and cultural experiences. This contributes to the logical reasoning and the improvement of students in environmental management, due to its experiential and contextual character.

The implementation of the levels of assistance allows the development of environmental management skills in students for future performance in social practice. This corroborates its pedagogical value and perfects the attention to professional differences as an ethical-professional condition that expresses a transformation, which favors the humanistic quality and implies a deep respect for man, from a humanistic and sociocultural didactic posture towards the environment.