

# PODIUM

Journal of Science and Technology in Physical Culture

---

**Volume 19**  
**Issue 2**

**2024**

University of Pinar del Río "Hermanos Saíz Montes de Oca"



## *A Methodology for environmental education, from the Physical Education class*

*Una metodología para la educación ambiental, desde la clase de Educación Física*

*Uma metodologia para educação ambiental, a partir da aula de Educação Física*

Irina Lozada Sotelo<sup>1</sup> , Eumelia Victoria Romero Pacheco<sup>2</sup> 

<sup>1</sup>26 de Julio School City, Santiago de Cuba

<sup>2</sup>University of Oriente, Santiago de Cuba

\*Corresponding author: irina.lozada.cu@gmail.com

*Received:* 10/28/2023

*Approved:* 02/28/2024

---

### **ABSTRACT**

With the aim of perfecting the improvement process for the development of environmental education in Physical Education teachers, from the classes they teach, a *methodology structured* in three stages (diagnosis, implementation and assessment) is presented. For the diagnosis, the documentary review, participant observation and interviews with the teachers were taken into account, which made it possible to implement actions for the treatment of the curricular contents with an interdisciplinary approach, once the aspect that affect pedagogical performance were declared from the planning of the methodological work system. The information collected allowed to assess the effectiveness of the methodology, considering the possibilities offered by the discipline for the integration of



---

the environment-sport-health relationship and the level of satisfaction reflected in the students. As a result, teaching work is perfected, students' relationships with the environment in the school environment are improved, and one of the tasks of the FARO Research Project "Active, Reflective, and Optimal Training of Teachers in Schools." Pedagogical Schools" is fulfilled.

**Keywords:** training, environmental education, methodology, Physical Education teachers.

---

## RESUMEN

Con el objetivo de perfeccionar el proceso de superación para el desarrollo de la educación ambiental en los maestros de Educación Física, desde las clases que imparten, se presenta una *metodología estructurada* en tres etapas (diagnóstico, implementación y valoración). Para el diagnóstico se tuvo en cuenta la revisión documental, la observación participante y las entrevistas a los maestros, lo que permitió la implementación de acciones para el tratamiento a los contenidos curriculares con un enfoque interdisciplinar, al quedar declaradas desde la planificación del sistema de trabajo metodológico los aspectos que afectan el desempeño pedagógico. La información recogida permitió valorar la efectividad de la metodología, al considerar las posibilidades que ofrece la disciplina para la integración de la relación medioambiente-deporte-salud y el nivel de satisfacción reflejado en los educandos. Como resultado se perfecciona la labor docente, se mejoran las relaciones de los educandos con el medioambiente en el entorno escolar y se da cumplimiento a una de las tareas del Proyecto de Investigación FARO: "Formación Activa, Reflexiva y Óptima de maestros y profesores en las Escuelas Pedagógicas".

**Palabras clave:** capacitación, educación ambiental, metodología, profesores de Educación Física.

---



---

## RESUMO

Com o objetivo de aperfeiçoar o processo de melhoria para o desenvolvimento da educação ambiental nos professores de Educação Física, a partir das aulas que ministram, é apresentada uma metodologia estruturada em três etapas (diagnóstico, implementação e avaliação). Para o diagnóstico foram levados em consideração a revisão documental, a observação participante e entrevistas com os professores, o que possibilitou implementar ações para o tratamento dos conteúdos curriculares com abordagem interdisciplinar, conforme foram declarados a partir do planejamento do sistema de trabalho . aspectos metodológicos que afectam o desempenho pedagógico. As informações coletadas permitiram avaliar a eficácia da metodologia, considerando as possibilidades oferecidas pela disciplina para a integração da relação meio ambiente-esporte-saúde e o nível de satisfação refletido nos alunos. Como resultado, o trabalho docente é aperfeiçoado, as relações dos alunos com o meio ambiente escolar são melhoradas e uma das tarefas do Projeto de Pesquisa FARO é cumprida: “Formação Ativa, Reflexiva e Ótima de Professores e Professores nas Escolas Pedagógicas”.

**Palavras-chave:** formação, educação ambiental, metodologia, professores de Educação Física.

---

## INTRODUCTION

Environmental problems constitute a threat to human existence, which significantly affects the deterioration of the quality of life, and consequently makes it one of the main concerns of humanity. To reverse this situation, it is necessary to have capable, motivated professionals, willing to work and with knowledge that allows them to find solutions to current problems and prevent others (Gómez et al., 2023).

By carrying out an analysis of how the improvement of the primary school teacher has occurred in recent decades, it is possible to reveal the priority nature that the Ministry of Education (MINED) gives to this task; however, the training and improvement plans have



been diverse due to the massiveness of teaching, so this situation has caused inequality in the levels of preparation for the development of environmental education, as it is subject to various factors that logically affect teaching performance, a situation that is reflected in the methodology and didactics (Ávila et al., 2019).

As a reflection of the application of educational policy and the results of the studies in the conceptual, organizational, methodological and practical order, the improvement of primary school teachers has gone through different moments, which requires the teacher to grow in flexible skills and abilities and It allows you to successfully face constant changes (Ávila et al., 2019).

In the light of the 21st century, declared by scholars as the knowledge society, primary education is situated within the central aspects for the development of environmental behaviors that respond to the objectives of the 2030 Agenda. By virtue of this, it is important to attend to the teacher training and improvement processes that take place in primary school.

In this sense, postgraduate education for the permanent training of teaching staff is recognized as one of the ways that guarantees the quality of school learning, and that must be closely related to initial training, hence the importance of the teacher improvement process, with emphasis on the Physical Education teacher who works in this type of teaching.

When talking about improvement, because it is a process of reconstruction of knowledge, not only curricular changes are required, but also profound changes in the way of instructing, educating and guiding teachers, based on the understanding of the didactic components, so the initial and ongoing training of Physical Education teachers constitutes a priority issue for attention to the preferences that typify the primary school student today, and that demand the pedagogical updating of these professionals, due to the interest that show the graduates in terms of their professional and social growth.



The school, as an educational institution, and the Physical Education teacher, with their direct action with the student, must lead their classes to compensate for errors, to respect and share differences through their actions and apply all materials, methodological resources and organizational that are necessary (López et al., 2023).

In this direction, environmental education constitutes one of the priorities of educational work due to its value for the enrichment of motivational, affective and volitional contents, essential in the self-regulation of learners in their interrelation with the environment, and in the teaching -Learning process is expressed in its potential to increase students' knowledge and critical sense regarding the immediate environment and society as a whole. To achieve this purpose, adequate preparation of education professionals is needed (García, 2023).

From this point of view, it is necessary to reorient environmental education for its development from Physical Education classes; this entails changes in pedagogical styles within the teacher -educational process, as expressed by Santos et al. (2020), these do not happen if it is not reflected in a different way, on how to teach through the analysis of very old problems, with a systemic and non-simplifying vision of reality to promote the development of complex forms of thinking from the class and go beyond the fragmented and reductionist visions for possible options for reestablishing the balance and equity of objective reality, with which learners interact every day.

When evaluating these criteria, it is considered that the methodological attention to Physical Education teachers constitutes a way for the study and dialogue about the resources that guarantee professional pedagogical updating for the development of environmental education, where the common interest must focus on the results that are achieved, in the willingness of teachers to renew their knowledge and in the enthusiasm shown by students during the development of sports and recreation activities.

The references studied show that environmental education is not reduced to forming citizens to conserve nature or change behaviors, but is assigned a challenging task: educating to improve lifestyles in society, so another of the lines to follow is the formation of values from environmental education, since it is about the preservation of human life,



supported by a set of fundamental axes, which at the same time are the key to human behavior.

In this regard, the definition of values offered by Prieto et al. (2018) about the need to transform the teaching of Physical Education in the current Cuban school is assumed., with the purpose of prioritizing educational work. These authors highlight the importance of Physical Education classes and constitute a favorable scenario for the formation of values, due to the possibilities offered by outdoor activities.

It is considered that for this level of teaching, the games and sports activities that are developed during Physical Education classes fulfill a double justification: on the one hand, their presence as a block of content is due to their recognition as a cultural element of great importance and on the other hand, it constitutes an ideal methodological resource, both for sports-recreational practice and for interdisciplinary treatment, with this the relationships established between students allow them to enhance social learning, cooperation, and acquire participatory attitudes of self-confidence in their possibilities, respect for the rules and for their own colleagues.

Other authors such as Gómez et al. (2022) recognize that Physical Education is a discipline that brings together a block of content considered ideal to address the development of environmental education, which is why it needs new scenarios for students to face new challenges, for this, it is important perception of the surrounding environment.

In another order, Zayas (2019) suggests that the solution lies in improving Physical Education, through training, and with that objective, he proposes actions towards those responsible for managing the area, from the earliest ages.

Another notable research on this topic is "Environmental education from the disciplinary approach of biological sciences applied to Physical Education and Sports" (Carvajal, 2009, as cited in Redondo et al., 2020) of the International School of Physical Education and Sports. With this novel initiative it is possible to take advantage of the potential of interdisciplinarity for environmental education, issues that support the proposal presented.





Meanwhile, more recent research points towards strengthening environmental education in athletics training (Redondo et al. 2020) and proposes a methodology to solve aspects related to environmental care during the training of future athletes and thereby contribute in the care and construction of the environment, an aspect that due to its importance must be applied in all sports practices that are developed in the teaching-learning process of primary education.

From this approach, points of agreement have been seen between the criteria presented by these researchers and the observations made during the diagnosis application stage, in the initial results and in the study proposal presented. This allows to assess the preparation of teachers in aspects of environmental education and its applicability in primary school.

Certainly, the processes of professional improvement of teachers at different educational levels have offered contributions to the formation of environmental knowledge, and this is evidenced by the bibliographic review consulted, which demonstrates that the topic has been approached from various angles; however, they still highlight insufficiencies that are reflected in the performance of the Physical Education teacher, which is why the design of methodological actions is required that guarantee the integration of environmental education from the classes they teach.

As an aspect of interest, it is noted that generally the teacher assumes Physical Education in the different grades of primary education, this allows his interaction with the students to have wide access, by working with a considerable number of them, who in addition to be beneficial for their pedagogical training, enables the development of professional skills and facilitates their participation in activities of the Institutional Project (complementary projects).

Another important element is given in the personal and collective interests that students express, starting from school age and the behavior patterns that mark behavior, which are expressed in achievements and/or difficulties that are a reflection of the relationships that exist. They are established in the school and community environment.





Therefore, it is required to increase the effectiveness in the improvement for the development of environmental education of the Physical Education teacher, through his participation in teaching activities, where the class is the space that allows socializing environmental educational actions, due to the possibilities it offers for training work, in an environment where sports activity prevails together with environmental learning that enhances the formation of values.

In this sense, it is necessary to have the resources available to the school institution, the responsible use of the different spaces intended for the development of educational processes and those that are in free space, and that sometimes suffer as a result of deterioration that they experience due to the destructive action of man or the adverse effects of the climate.

There are diverse experiences regarding the development of environmental education, however, the theoretical and methodological insufficiencies for its development in the Physical Education teacher are still notable. To achieve this purpose, it is necessary to incorporate environmental education for sustainable development (ESD) as a component of the pedagogical performance of the Physical Education teacher, as it is one of the main challenges faced by the Cuban educational system, by offering an education of quality for all as stipulated in the 2030 Agenda, this requires a change of mentality in those responsible for guiding and systematizing teacher improvement training processes.

The above allows to assert the necessary application of a methodology that aims to perfect the improvement process for the development of environmental education in Physical Education teachers, from the classes they teach that take into consideration the potential offered by sports activities and recreational activities for the integration of the environment-sport-health relationship.



---

## MATERIALS AND METHODS

The research was applied at the Pedro Marrero Aizpurúa Primary Semi-boarding School, in Santiago de Cuba, Cuba. It had the support of 3 directors and 16 teachers, of them 12 from the second and third moments of development, who teach the disciplines of nature, in addition to four specialist teachers in Physical Education who teach this discipline in the different grades of the primary level.

For this study, pedagogical exploration was combined between general education teachers and Physical Education teachers, which allowed comparisons to be made regarding the use of methods and the way of acquiring and teaching environmental education in the different disciplines of the curriculum. As a common characteristic, all of the participants in this study have a work history that ranges between 10 and 25 years. Of the total, only two teachers are new graduates, an issue that, although not decisive in their teaching performance, requires the necessary theoretical and methodological guidance.

With the diagnosis applied it was possible to determine that, despite the years of work, difficulties are evident in the teachers, related to the topic being investigated, so it is valued that due to the time that has passed, what was learned in the undergraduate degree loses relevance, this criterion leads to the need for a pedagogical update to achieve better teaching performance.

Correspondingly, the research presented was based on the use of various methods at the theoretical and empirical levels, which made possible the interpretation of the policy contained in the regulatory documents, referring to the care of the environment that have been prepared according to the references of the environmental education.

As theoretical methods, analysis-synthesis was used to process the results of the information obtained in the diagnosis; the hermeneutic-dialectical, for the interpretation of the assumptions that support the epistemological foundations of the improvement process in primary education, with emphasis on the Physical Education teacher and for the assessment of the results of the applied diagnosis.



As empirical methods, scientific observation was used to have a perception about the ways that are used from the Physical Education discipline, based on the care of the environment during the classes taught by these teachers, and thus be able to verify the state and evolution of the main manifestations related to the different educational processes, and participant observation was carried out to record the achieved and less achieved aspects of the process, to acquire a more exact vision of the problem and specify the proposal.

With the documentary review, it was possible to assess how the managers conceive the methodological work system and compliance with circular letters and resolutions that direct the improvement process for the development of environmental education.

The exchange carried out allowed the understanding of the aspects related to the development of the methodological activities that teachers receive, by verifying the quality in terms of the application of pedagogical resources demonstrated in the review of the class systems, the evaluations carried out and of the design of complementary activities, and their correspondence with the objectives, among other aspects.

The group interview was aimed at both groups: teachers and directors, with specific objectives that allowed to verify the level of knowledge of those involved in the process and their disposition towards new work styles for the development of improvement in topics aimed at environment-sport-health relationship.

Four workshops were developed to socialize theoretical-methodological actions to understand the lines contemplated by the methodology and its applicability, in order to incorporate new work styles, when considering the elements that characterize the improvement of the educational system in primary education based on the analysis of the components of the ESD. For the processing, interpretation and tabulation of the results obtained in the diagnosis, descriptive statistics and percentage calculation were used as a mathematical method.



### **Group conversation with primary teachers**

Objective: assess the quality of the methodological activities they receive aimed at teacher training, in correspondence with the necessary environmental training.

Indicators of the applied interview:

- Quality and level of satisfaction of the methodological activities received.
- Criteria regarding the development of methodological preparations aimed at environmental training.
- Assessments related to the methodological work for the development of environmental education.

### **Group conversation with managers**

Objective: to assess how theoretical-methodological actions are conceived for the development of improvement in environmental education, from the planning of the methodological work system in primary education.

Indicators of the applied interview:

- Capacity to conceive and develop theoretical-methodological activities of environmental education, from the perspective of sustainable development.
- Quality in the conception of the design of methodological activities for the environment-sport-health relationship.

### **Group conversation with Physical Education teachers**

Objective: to assess the main criteria that Physical Education teachers have regarding the elements that characterize the improvement process they receive for the development of environmental education, through the environment-sport-health relationship.



Indicators:

- Assessments about the quality of the methodological preparations they receive and their correspondence with the environment-sport-health relationship.
- Considerations about improvement for environmental educational development, from the sports discipline and other curricular and extra-teaching activities that they carry out.

## RESULTS AND DISCUSSION

The primary school has gone through different changes that have served to lay the theoretical-methodological and practical bases of a school transformation project, focused on the changes in action and intervention of all those involved in this process, which has its essence in the Primary School Model (Lozada *et al.*, 2022).

Among the proposed concepts are the work and collaboration relationships between teachers who interact with the same group of students in a cycle, grade or department at the school level, and are contextualized through the Institutional Educational Project, this requires the integration of the specialists in various curricular and extra-teaching activities that take place in school and outside of it, which implies that the current curricular conception is understood as the system of activities and relationships aimed at achieving the goal and objectives of primary education.

The new curricular conception developed, based on the commitment assumed by researchers from the Central Institute of Pedagogical Sciences (ICCP), directors and teachers of the school institutions involved in the pedagogical studies carried out, made possible the transfer of new work styles between school institutions, and with it the instrumentation of methodological and didactic materials for the direction of educational processes.

Correspondingly, the methodological guidelines for first and fourth grades suggest the didactic and methodological procedures to be used in Physical Education classes, these deal with the skills to be developed and favor the systematization of concepts, facts and principles of the sports discipline. In addition to the possibilities for the use of productive



methods (problematic and investigative exposition), specific attention to the learners is required, according to the psychological characteristics of the development of their personality at moments of development.

To the extent that the selection and application of teaching methods, procedures and resources are effective, this is the active and conscious participation that the student shows in the class, this does not deny that teaching is developed with the use of reproductive methods such as the explanatory-demonstrative, synthetic, analytical-associative-synthetic and repetitions (López et al., 2023).

The selection of methods and methodological procedures depends on the objectives and characteristics of the content, in such a way that it allows revealing the logical-methodological path used by students to achieve goals and learn the content, and by teachers to efficiently direct their class. Therefore, prior preparation is essential to conceive the class system in accordance with the objectives and teaching content of each teaching unit.

To find out how the improvement process is carried out in primary education and the main criteria of teachers and directors, a group conversation was applied aimed at 16 teachers, including the four Physical Education teachers and the three directors participating in the study.

Among the most general criteria, teachers express that there is little depth in those objectives that make up the teaching reality, among them the treatment offered to the problems that typify and affect the school and community environment, so the methodological activity is limited to compliance with curricular guidelines and adjustments, and sometimes the possible solution to real environmental problems is not taken into account, which is why the resources that could favor environmental learning in students are lacking.

When interviewing Physical Education teachers, they refer to the preparation they have to teach their classes and sports activities. In this aspect, they consider they feel prepared to



form environmental values in their students and classify as easy the development of educational actions in connection with those that respond to the care of the environment, from the classes of their specialty.

In the exchange carried out with the Physical Education teachers, three of them (75%) consider that with the classes and recreational activities they teach, they maintain health care, teach their students how to do it, and in this way contribute to a better life quality; Therefore, they do not see it necessary to include another type of activity, despite the fact that the academy is a priority to teach various disciplines that facilitate the care of human health to better understand the benefits that come from practicing sports and healthy recreation. for the environment-sport-health relationship.

When carrying out an analysis of these criteria, it is considered that this discipline promotes the relationship of students with the natural environment and the relationships established between them and their school environment, so the environment must be treated not only as a concrete content, but as a transversal axis to all disciplines. Physical Education is the way through which physical activity is linked to outdoor space (Gómez et al., 2023), since its characteristic is that it brings together a block of content that is ideal for the treatment of this topic.

In this regard, these authors have made clear the importance of physical activity as learning environmental education in university students from the subject Physical Education, by demonstrating that it is an effective way, space and method to develop environmental training, which remains as a group of positive values and a learning system incorporated into the personality of the student.

Likewise, it is agreed with Valladares et al. (2022, as cited in Gómez et al., 2023), who refer that the student must consider the characteristics of the terrain, the weather, the sports facilities, and physical and mental well-being to exercise physical activity in a sustainable way.





The assessments made by these authors constitute theoretical references for the design and application of the methodology presented, since there are points of agreement that distinguish the elements that relate the sports discipline with the development of environmental education and aspects that condition the contents to be discussed in the methodology to be used, from the Physical Education classes taught by these teachers.

Regarding the quality of the methodological activities, 100% of those interviewed state that the preparation activities they receive focus their attention on the results of the students' sports performance, in this way the environmental educational work is often left to spontaneity, this reveals it is notable that the true interest of some managers and teachers of this discipline is evident in the development of physical activity and its results.

Regarding the scientific-methodological activity, 100% of the teachers express that the methodological preparation activities they receive adjust to the curricular contents, this coincides with the evaluations made by the authors, as it is proven, from observation and exchange made.

Related to scientific activity, it is confirmed that the school has good scientific and research potential, but the facilities offered for the development of research from different angles are not used to the maximum. Regarding the level of participation in events, symposiums and other activities linked to science and research, the participation of Physical Education teachers in this type of activities is not very representative, moreover, when compared with the number of teachers that make up the faculty, and with the level of participation shown by the total number of teachers in the center.

In the exchange carried out with the teachers, it was verified that scientific activity does not constitute a prioritized task, which is evidenced by the criteria provided by 10 of the teachers interviewed, 62.5% consider that it is an additional teaching load and the majority of these teachers do not conceive it as part of their professional project, although they recognize how important the incorporation of scientific and research work as part of their own culture can be for their self-preparation; both teachers and directors value that to some extent



participation in activities related to research improves educational quality due to the pedagogical exchange that is established in this type of meetings.

The managers interviewed recognize the good functioning of scientific activity at the municipal level and compared to the wide dissemination of calls, the presence of teaching staff in this type of activities is unrepresentative, especially Physical Education teachers, and they add that their participation contributes to their self-preparation and support for teaching, but they recognize that these activities require a lot of effort to guarantee the quality that teachers must show in their presentations.

They highlight as well-achieved aspects the willingness of the pedagogical group to assimilate the process of changes that guarantees teacher preparation and the link that is established through the school-family-community relationship that has its essence in the requirements of improvement that operates in this type of teaching.

For the application of the proposal, what was expressed by Valle (2012, as cited in García, 2023) is considered when he proposes what principles the improvement actions should develop. From this perspective, it is taken as a principle that preparation in environmental education is not limited to a period in which the identified problem is resolved, but rather constitutes a process of continuous training, in which the mode of professional action is perfected and takes into account methodological work is the main way in which it is realized.

### **Methodology for the development of environmental education in primary education**

Based on the theoretical and epistemological references that support this research, a methodology is presented that allows the teacher to be guided in aspects that link the activities for the protection of the environment with the contents that are addressed for the development of sports activity and recreation.

The methodology is based on the applied diagnosis, with which it was possible to determine the difficulties that Physical Education teachers present. Based on the analysis carried out, it is agreed that the causes are related to the limited methodological preparation that they



present, by not taking into account those aspects that are necessary for the integration of the environment-sport-health relationship, which is why it is appreciated difficulties in terms of pedagogical performance, and in the quality of learning of the environmental contents that students receive.

As part of the applied methodology, the development of four workshops is guided to be taught in methodological preparation sessions, collected in the following topics:

#### Workshop 1. Physical conditions

- Location of the school in Santiago de Cuba, with respect to the direction of the Sun.
- Insolation, hours of sunshine, wind direction and environmental conditions.
- Schedule established for the development of classes and recreational activities.

#### Workshop 2. Care and recognition of the area for sports activity

- Conditions of the Physical Education area for the development of teaching activities.
- Examination of the area to determine potential risks and dangers in the environment.

#### Workshop3. School diagnosis

- Knowledge of the personality of the students of the groups they serve.
- Diagnosis of physical abilities and capacities for the development of environmental education, in correspondence with the conditions of the sports area.

#### Workshop 4. Learners' preferences for Physical Education activities.

- Inventory of activities with the highest level of satisfaction among students.
- Inventory of physical activities with a higher level of difficulty in students.
- Alternatives for the direction of the educational teaching process of the subject Physical Education in primary education.
- Treatment from the Physical Education subject to ESD, as a component of education.



For the development of these workshops, the indications suggested in the Methodological Guidelines proposed in the Third Improvement for first and fourth grades are valued, based on the didactic conception and the treatment of the contents of the units, which are closely related to the components of education for the development of the personality of the students, so it is convenient for the teacher to know them very well, observe if they attend classes, the level of development of skills and capacities achieved and how they assume the proposed tasks, that is, knowing them to direct their development and the achievement of the objectives set for the degree.

As an important aspect, the analysis of the aspects that characterize the student is required, at times of development, and specifically, the fourth grade due to its preparatory nature for learning sports units. This grade closes the second moment in the development of this educational level, which is why it should be treated as the stage in which the teacher must take stock and reflect on the objectives of the cycle, and its level of achievement in each of the students. of the groups they serve.

The scheduled content is planned for the Physical Education teacher to develop basic motor and sports skills and physical capacities, based on the integrated work of both, so an analysis of compliance with the objectives must be carried out together with the managers. of the subject program: physical condition, pre-sports games and athletics; likewise, as in previous grades, the units are designed so that students consolidate the acquired skills and through them reach higher levels of development of their physical capacities.

In this sense, treatment aimed at working on physical capacities is necessary, so this issue must be given great attention to facilitate students' increased development in accordance with the physical conditions they possess. Hence, the importance of detailed knowledge of the physical condition of the students to regulate this process.

For methodological reasons, the modeling of the pedagogical process, from its system form and the achievement of transformations in the curricular conception for teaching sports activity, allows determining the relationship of the teaching -methodological structure of



teaching on the basis of the relationships objective, content, time, method, organization and teaching aids, didactic principles and evaluation.

In this sense, the concrete nature of these relationships is expressed in the lines drawn for the application of the methodology, which are in correspondence with the aspects reflected in the diagnosis, and which, due to their importance, are addressed as part of the improvement process. By revealing the main guidelines to take into account for the development of environmental education from Physical Education classes, they are determined as:

- The school organization for the proper functioning of the teaching-educational process from the subject of Physical Education and recreation activities that take place in primary school.
- The school diagnosis, which is manifested through actions of recognition and care of the spaces that are intended for the practice of Physical Education and sport for all.
- Compliance with hygienic standards, correct eating habits and body hygiene, which is expressed in the leading, systematic and conscious participation of students in physical, sports and recreational activities for the creation of habits of permanent practice of physical exercises that are developed at school.
- Ideological orientation is expressed in the formation of convictions, attitudes, norms and values.

When implementing the methodology, the comprehensive educational approach is assumed as a scientific-methodological conception, which is characterized by the integrative development of cognitive, affective and sociocultural aspects, under the guidance and orientation of the teacher; with these guidelines, the objective of the methodology is fulfilled, which is in correspondence with the topics developed in the methodological preparation sessions that teachers receive for the development of environmental education from Physical Education classes, thereby achieving:

- A professional pedagogical update for the Physical Education teacher to search for new methods and work styles, which allows them to improve their pedagogical



performance, by linking the contents of the subject with the care of physical spaces and human health.

- Extra-teaching activities that favor the systematic practice of physical exercises, play, interpersonal relationships between students and the care of the areas intended for sports practice, through the execution of educational actions that from the conception of the institutional project and groups favors the development of ESD.

To evaluate the results of the applied methodology, the collection of information and inquiry with directors and specialists who teach Physical Education and sports for all, in the second and third moments of the development of primary school, was used, which allows to determine how these teachers link sports activity with environmental content from the classes they teach. The opinions recorded revolve around the main transformations experienced by the Physical Education teacher's improvement process.

In general sense, teachers express a high level of satisfaction with the training received, recognizing the commitment they assume regarding the formation of environmental capabilities, which from the teaching process they are capable of transmitting, a product of collective construction and sustained pedagogical exchange with the teaching staff involved in the task. As a result, progress is evident in the planning of the methodological activities taught that address the development of environmental education and allow the link between sports activity and the formation of environmental values, which is opportune for managers in terms of the quality that it is achieved by conceiving the methodological activities.

Both managers and teachers value as positive the impact of the improvement actions that, as part of the process, benefit the development of environmental education, as the methodology to be followed is established, and the redesign of actions that are determined by the lines drawn for their application.



## CONCLUSIONS

With the applied diagnosis it was possible to characterize the improvement process of the Physical Education teacher, for the development of environmental education from the classes they teach, by determining the main difficulties that limit its realization from the planning of the methodological work system in primary education.

The methodology contains aspects that enable the improvement of the teacher in environmental education issues, by promoting the use of methods that from the methodological preparation favor the incorporation of methodological aspects for the correct treatment of the environment-sport-health relationship, by linking the contents of Physical Education classes with the development of environmental values in students, as one of the ways that guarantee attention to the component of Education aimed at sustainable development at the primary level.

## REFERENCES

- Ávila Rabaza, M. E., Santos Abreu, I., Mederos Piñeiro, M., & Espert Castellanos, B. (2019). La superación del maestro primario: vía para el mejoramiento de su desempeño profesional pedagógico ambiental. *Universidad Y Sociedad*, 11(5), 89-98. <https://rus.ucf.edu.cu/index.php/rus/article/view/1347>
- García, B. (2023). *Preparación en educación ambiental para maestros de la Educación Primaria*. *Revista Pedagogía Profesional*, Varona, 21 (3). <http://revistas.ucpejv.edu.cu/index.php/rPProf/article/view/2287>
- Gómez Quintana, I., Hidalgo Castro, Y., Díaz Cabrera, J. C., Pozo Contrera, A. de J., & Ramos Pérez, E. (2023). Desarrollo de la educación ambiental en estudiantes universitarios desde la asignatura Educación Física. *PODIUM - Revista De Ciencia Y Tecnología En La Cultura Física*, 18(1), e1262. Recuperado a partir de <https://podium.upr.edu.cu/index.php/podium/article/view/1262>





López, M., Lago, J., González, R., Dueñas, M.V., Miranda, R.J., Correa, H., & Linares, H. (2023). *Orientaciones Metodológicas Educación Física cuarto grado*, Editorial Pueblo y Educación, La Habana, Cuba.

Lozada, I., Romero, E.V., & Céspedes, A. (2022). Capítulo EDUCACIÓN AMBIENTAL EN LA FORMACIÓN DEL MAESTRO PRIMARIO, *Formación universitaria intercultural en el contexto de la sociedad del conocimiento*, pp.(104-124). Esmeraldas, Ecuador. ISBN: 978-9942-42-414-3. <https://doi.org/10.56168/ibl.ed.167851>.

Lozada, I., Romero, E.V., & Céspedes, A. (2022). Capítulo Gestión de valores ambientales en la Educación Primaria. *Estudios multidisciplinares en la formación profesional*, pp. (68-84). Esmeraldas, Ecuador. ISBN: 978-9942-42-336-8. <https://doi.org/10.56168/ibl.ed.167848>.

Lozada, I., & Romero, E.V. (2022). *La prevención de riesgos ambientales asociados al uso del agua desde el proyecto institucional de grupo*. Revista Argentina de Investigación Educativa, Educación y Ambiente, 2(4), pp. 231-247, Publicación semestral, ISSN 2796-7433. <https://portalrevistas.unipe.edu.ar/index.php/raie/article/download/163/94/563>

Prieto Tamarit, E. A., Hernández, J. J., & Giniebra Enríquez, E. (2018). La formación de valores desde la clase de educación física. PODIUM - Revista De Ciencia Y Tecnología En La Cultura Física, 13(1), 7487. <https://podium.upr.edu.cu/index.php/podium/article/view/748>

Redondo Reynoso, E. R., Calle Osorio, F., Coronel Verdecia, A. R., & Valladares Fuente, F. E. (2020). Metodología para fortalecer la educación ambiental en el atletismo. PODIUM - Revista De Ciencia Y Tecnología En La Cultura Física, 15(2), 279289. <https://podium.upr.edu.cu/index.php/podium/article/view/937>

Santos Abreu I., Laportilla Estévez N. D., & Castro Serrano L. (1). El perfeccionamiento de la educación ambiental en el Sistema Nacional de Educación como política pública en Cuba. *Cub@: Medio Ambiente Y Desarrollo*, 20(38). <https://cmad.ama.cu/index.php/cmada/article/view/12>



Valladares, F.E., & Posso, R.J. (2022). *Indicadores de la educación ambiental para el profesional del deporte*. 7(1). 45-59

<https://dialnet.unirioja.es/metricas/documentos/ARTREV/8441632>

Zayas Acosta, R. de la C. (2019). Estrategia de capacitación para el mejoramiento de la Educación Física en la infancia preescolar. *PODIUM - Revista De Ciencia Y Tecnología En La Cultura Física*, 14(2), 204221.

<https://podium.upr.edu.cu/index.php/podium/article/view/816>

***Conflict of interest statement:***

The author declares that there are no conflicts of interest.

***Author's contribution:***

The author is responsible for writing the work and analyzing the documents.



This work is licensed under a Creative Commons Attribution-NonCommercial 4.0 International license.

