

MENDIVE



REVISTA DE EDUCACIÓN


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Original article

Systematization of experience in environmental education: the contest for World Water Day

Sistematización de experiencia en la educación ambiental: el concurso por el Día Mundial del Agua

Sistematização da experiência em educação ambiental: o concurso para o Dia Mundial da Água

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ABSTRACT

The environment education with integral focus occurred in the mark of formal, non-formal and informal education actions, with diverse human groups, articulate with different education process and contemporary communication. The goal was socialized the concourse for World Day of Water with the participation of students in different educational level of Cabaiguan, action of educational strategy to protect water resource, implemented at Municipal University Center. The strategy learns to learn contextualized to environment education was used, the methodology to systematized the environment education experiences and theory and empirical methods: historic and logic, induction and deduction, document review, the observation and the interview. The analysis unit was nine schools and 110 students that participated in 2017, 2018 and 2019. Educate the members of society since early years in the sustainable in the use of resources, the duty of protect, the mitigation of negative impact strategies and the adaptation to the climate change, is essential in the formation of responsible environmental conscience, for this the realization of extracurricular activities for the students is a relevant via for their sensitization and commitment with the behavior modes transformation in the accomplishment water resource, concreted the learn-learn strategy. The systematization the students' participation of different teaching is concreted in the actions of the educational strategy to protect water resource at the community.

Keywords: environment education; systematization; extracurricular activities; concourse; water resource.

RESUMEN

La educación ambiental con enfoque integral transcurrió en el marco de acciones educativas formales, no formales e informales, con diversos grupos humanos,

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articulada con diferentes procesos de educación y comunicación contemporáneos. El objetivo fue socializar la experiencia del concurso realizado por el Día Mundial del Agua con la participación de estudiantes de diferentes niveles educativos en el municipio de Cabaiguán; acción de la estrategia educativa implementada por el Centro Universitario Municipal para la protección del recurso agua. Se utilizó la estrategia aprender-aprender, contextualizada a la educación ambiental, la metodología para la sistematización de experiencias de educación ambiental y los métodos: histórico y lógico, inducción y deducción, revisión de documentos, la observación y la entrevista. La unidad de análisis la constituyó nueve centros escolares y 110 pioneros en 2017, 2018 y 2019. Educar a los miembros de la sociedad desde edades tempranas en el uso sostenible de los recursos, el deber de protegerlos, las estrategias de mitigación de impactos negativos y adaptación ante el cambio climático, es esencial en la formación de una conciencia ambiental responsable; para ello la realización de actividades extracurriculares por los alumnos es una vía novedosa para su sensibilización y compromiso con la transformación de los modos de comportamiento en el aprovechamiento del recurso agua, concretándose la estrategia aprender-aprender. Con la sistematización de la participación de estudiantes de diferentes enseñanzas en el concurso promovido, se concreta una de las acciones de la estrategia educativa del Centro Universitario Municipal para la protección del recurso agua en la comunidad.

Palabras clave: educación ambiental; sistematización; actividades extracurriculares; concurso; recurso agua.

RESUMO

A educação ambiental com abordagem integral ocorreu no âmbito de ações educativas formais, não formais e informais, com diversos grupos humanos, articuladas

com diferentes processos educativos e comunicacionais contemporâneos. O objetivo foi socializar a experiência do concurso realizado para o Dia Mundial da Água com a participação de alunos de diferentes níveis educacionais do município de Cabaiguán; ação da estratégia educacional implementada pelo Centro Universitário Municipal para a proteção dos recursos hídricos. Utilizou-se a estratégia aprender-aprender, contextualizada à educação ambiental, a metodologia para a sistematização das experiências de educação ambiental e os métodos: histórico e lógico, indução e dedução, revisão documental, observação e entrevista. A unidade de análise foi composta por nove escolas e 110 pioneiras em 2017, 2018 e 2019. Educar os membros da sociedade desde cedo sobre o uso sustentável dos recursos, o dever de protegê-los, estratégias para mitigar impactos negativos e adaptação às mudanças climáticas é essencial na formação de uma consciência ambiental responsável; para isso, a realização de atividades extracurriculares pelos alunos é um novo caminho para sua conscientização e comprometimento com a transformação dos modos de comportamento no uso do recurso hídrico, materializando a estratégia aprender-aprender. Com a sistematização da participação de alunos de diferentes licenciaturas no concurso promovido, especifica-se uma das ações da estratégia educacional do Centro Universitário Municipal para a proteção dos recursos hídricos na comunidade.

Palavras-chave: educação ambiental; sistematização; atividades extracurriculares; concorrência; recurso hídrico.

INTRODUCTION

Currently, the situation facing humanity in the face of climate change is complex. In Cuba, the Ministry of Science, Technology and Environment (CITMA) leads the tasks prioritized by the Cuban state, one of them, the adaptation and mitigation of impacts on the Environment (CITMA, 2017).

The Cuban university has as a reference the current agenda for sustainable development until 2030, promoted by the United Nations Organization (UN, 2015), the guidelines of the Party and the conception of updating the Cuban economic model. The objectives of the agenda up to 2030 related to the theme correspond to objectives 4, 6, 13 and 13. Its content refers to: education for all, guaranteeing the availability of water and its sustainable management and sanitation for all, guaranteeing sustainable consumption and production patterns and take urgent action to combat climate change and its effects.

Environmental education in Latin America and the Caribbean has been developing, with different nuances and emphasis, over five decades. Its initial approaches focused on ecological and conservation aspects, creating awareness and sensitization; subsequently adding various lines of action linked to recycling, the creation of school gardens and sustainable consumption.

The construction of responsible environmental citizenship has also been an important emphasis, both at the urban and rural levels. Likewise, the creation of networks of youth

volunteers, promoters of processes in various sectors (Environmental Training Network for Latin America and the Caribbean, 2017, p. 7).

Environmental education from schools to families and communities is decisive: the role of the school as a fully developing institution and, at the same time, a promoter of community development; the characteristics of the educator capable of becoming an integrating and mobilizing element of the community forces to achieve their development and the realization of a community education as an integration of all the factors and institutions, whose coherently organized actions lead the population to the development of an environmental culture.

In the report of the Environmental Training Network for Latin America and the Caribbean (UN, 2017) it is stated that "currently, there is consensus regarding the contribution of environmental education to the improvement of environmental awareness, awareness and environmental conditions in many places in the region; but there is also clarity regarding the need to continue deepening and improving their performance" (p. 5).

The comprehensive approach implies that there is a permanent articulation between three dimensions: social, economic and environmental. Environmental education with a comprehensive approach can take place within the framework of formal, non-formal and informal educational actions, with various human groups, and can be articulated with different processes of contemporary education and communication.

Within this framework, the UN General Assembly adopted, in September 2015, the 2030 Agenda for Sustainable Development, whose Goal 4 is to guarantee inclusive, equitable and quality education and promote lifelong learning opportunities for all.

The water resource is essential for life, so its protection is of global concern in a world where the population and expectations of quality of life are growing. One of the goals of the United Nations Organization is to reduce poverty and ensure people's access to drinking water. In the strategic conception of development until 2030, in the strategic axes it is stated that the Cuban state continues to promote the reduction of pollution and environmental education.

World Water Day was approved by the General Assembly of the United Nations and resolution A/RES/47/193 was adopted on December 22, 1992, which declared March 22 of each year as World Water Day.

CITMA (2016) establishes the principles on which Cuban environmental management and policy are based. Two of them: environmental education, communication and information aimed at developing an environmental culture in the citizenry and a preventive vision. Regarding water resources, it is specified that the country has more than 600 basins; however, they point to difficulties in the systematic and effective management of the resource, as an inefficient use of water prevails, which is influenced by the technical state of the networks (losses in the case of external networks are estimated to be around 60% and intra domiciliary by 20%), the poor measurement of consumption, as well as the rates and price systems that do not favor savings. Agriculture is the sector that uses a higher percentage of the water that is extracted annually (57%) and of the water delivered, around 60% is lost due to the poor condition of canals and pipes, as well as the technologies in use.

In previous works (de la Cruz, Hernández and Marrero, 2018: p.9) it is stated:

Transformations are
required in the ways of being;
living, producing and

consuming, that is, only through profound changes in people's habits, sustainability will be inserted into the values and beliefs of communities, and thus will be transmitted from generation to generation. Educating consumers from an early age is a priority, for this the different educational and community spaces can be used to raise awareness among students and the general public about the protection and efficient use of water.

An existing problem is the need to involve children and young people from an early age, together with teachers, professors and the family, in the acquisition of knowledge, the proposal of ideas and solutions, as well as the formation of an environmental ethic, particularly in the protection and sustainable use of water.

The authors consider that one of the activities that motivate students is the participation in contests; It is a way to encourage them to creatively delve into a theme and express their knowledge through artistic expression, say plastic (drawings) or different types of literary texts.

The objective of this article is to socialize the experience of the contest held for World Water Day with the participation of students of different educational levels in the municipality of Cabaiguán, action of the educational strategy implemented by the Municipal University Center for the protection of water resources.

MATERIALS AND METHODS

The study was carried out in the period between 2017, 2018 and 2019 in the municipality of Cabaiguán, province of Sancti Spíritus. The research is descriptive, longitudinal and qualitative predominates.

The methodology for the systematization of an environmental education experience (ONU, 2017) and the theoretical and empirical methods (Lanuez, Martínez and Pérez, 2010) were used: historical and logical, induction and deduction, document review, observation and the interview.

The historical and logical: for the clarification of the different stages of the object in its chronological succession and to reproduce the essence of the main content of its development.

Induction and deduction: in the generalization of the ideas treated by various authors around the problem and the formulation of regularities determined from the study of literature and the manifestations of the problem of environmental awareness in the locality.

The review of documents: in the review of the bibliography necessary for the analysis of concepts, the correct procedures in accordance with the pedagogy for environmental education, the specific contents of the themes, the systematization of experiences, the political and patriotic content in correspondence with the values of our socialist society. In addition, the products made by the contestants were evaluated.

Observation: in the verification of the problem and the correct application of water saving and protection measures.

The interview: allowed to verify the need for awareness and involvement of students in the subject

The learning-learning strategy was contextualized to environmental education (see figure 1):

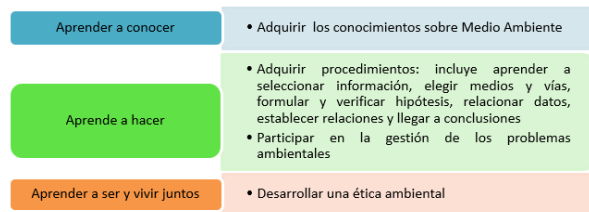


Fig. 1- Learning-learning strategy contextualized to environmental education

The process of systematization and selection of a proposal meets requirements; It was executed in five steps, which are specified below. The requirements consist of:

- The availability of working documents and sufficient materials (reports, works presented in competition, diplomas, calls) from the experience during three consecutive years, which support the analysis.
- The result meets the basic characteristics of an environmental educational process with a comprehensive approach, established in the conceptual framework.
- It contains innovative elements and specific applications in the locality.
- It has produced measurable impacts, qualitatively and quantitatively, which are presented in the discussion of this text.
- It has had the support of various actors/sectors at the local level: the Municipal University Center, the Bachelor's Degree in Primary Education, the Municipal Directorate of Education, Directors and teachers of Primary Schools in the municipality, basic secondary and pre-university teachers.

The steps to develop the systematization of the proposal were carried out based on what

was considered by the Environmental Training Network of Latin America and the Caribbean in the UN (2017) and the presentation of the results through the proposed format. This procedure is contextualized in figure 2:

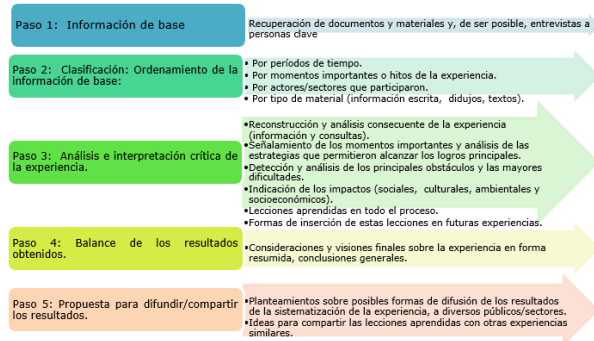


Fig. 2- Steps for the systematization of the proposal
 Source: elaborated from UN (2017)

The unit of analysis was made up of the educational institutions of the municipality: Primary Schools (EP), Urban Basic Secondary School (ESBU) and the Pre-University Institute (IPU), achieving the participation of 26 students in 2017, 49 in 2018 and 38 in 2019; broken down by schools as shown in tables 1, 2 and 3.

Table 1- Participants by school in the contest (2017)

No.	School center	Participants
1	EP "Camilo Cienfuegos Gorriarán"	15 (9 from the first cycle and 6 from the second cycle)
2	EP "Manuel González Crespo"	11 (11 of the second cycle)
	Total	26

Table 2- Participants by school in the contest (2018)

No.	School center	Participants
1	Route No. 3: EP "Julio Piñeiro"	3 pioneers (3 from the second cycle)
2	EP "Camilo Cienfuegos Gorriarán"	6 pioneers (4 from the first cycle and 2 from the second cycle)
3	EP "Noel Sancho Valladares"	8 pioneers (3 from the first cycle and 5 from the second cycle)
4	EP "26 de Julio"	25 pioneers (9 from the first cycle and 16 from the second cycle)
5	ESBU "Conrado Benítez García"	1 pioneer
6	IPU "Nieves Morejón López"	2 students
	Total	45

Table 3- Participants by school in the contest (2019)

No.	School center	Participants
1	Route No. 3: EP "Julio Piñeiro"	13 pioneers (second cycle)
2	Route No. 3: EP "Sergio Soto"	2 (second cycle)
3	EP "Camilo Cienfuegos Gorriarán"	1 pioneer (second cycle)
4	EP "Noel Sancho Valladares"	12 pioneers (second cycle)
5	EP "Dionisio Rodríguez"	8 (second cycle)
6	IPU "Nieves Morejón López"	3 students
	Total	38

RESULTS

In the design, implementation and evaluation of the environmental strategy of the Municipal University Center, the result of Palomino & Álvarez (2016) was considered. The contents to be addressed in environmental education related to water were: saving electricity and water; measures for water protection. In addition, other contents are aimed at reusing, recycling, reforestation, practices for the protection of fauna, practices for the protection of the soil, environmental disclosure and respecting environmental legislation (De la Cruz *et al.*, 2018).

Other calls for contests for World Water Day were reviewed:

1. Trazaguas Contest: started in 1997, which in 2017 celebrated 20 years of its creation by the Institute of Hydraulic Resources. It has been dedicated to fostering in children, adolescents and young people a culture of caring for and saving water. In the 19 editions of the Trazaguas Contest, more than 80,000 thousand works have been received in its three specialties: drawing, story and poetry. The most outstanding provinces for the number of works presented and prizes received are Matanzas and Havana, in the first place; Camagüey and Sancti Spiritus, in second place, and Granma and Villa Clara, in third place (Cuban Association of the United Nations, 2017); (Lopez, 2020); (Rodriguez and Bueno, 2020).

2. Internal contest: National Water Festival Contest, with the purpose of promoting the approach to water management in basins, at the level of water users, they have promoted two consecutive versions of the National Water Contest "Forms and customs of using water well" in the fight against poverty", as a meeting place and exchange of visions, experiences and practical solutions for the conservation, use and exploitation of water resources, both surface and underground,

with the different actors involved in the environmental management of Hydrographic basins and respecting their uses and customs (Saavedra, 2009).

The authors considered it appropriate to hold a contest as a local initiative, instead of assuming a call made in another context and of which they did not have access to the results with the theme: "Water source of life: water and sustainable development", to environmental education and awareness of teachers, family and school community; and encourage interaction between teachers in training at the Municipal University Center and their students in schools.

The type of work to be presented was assessed, according to the ages of the participants, the availability of material resources and the motivation of the students at an early age for drawing, writing texts, in some cases for poetry and the tenth; the latter constitutes a tradition in the municipality and is a cultural heritage of the Cuban nation.

Likewise, the age of the participants, the availability of material resources and the motivation of the students at an early age for drawing, writing texts and in some cases for poetry were analyzed.

Regarding the typology of works, regarding the drawings, the motivation of children of early ages towards the development of plastic expression, the expression of feelings and motivations and the formation of awareness around the theme was valued. The writing of texts (letters, compositions, poems and tenths) was also analyzed, since in them they communicate their knowledge, ideas, concepts, values and awareness of the subject; In addition, it contributes to the best use of the mother tongue.

As part of the Educational Work Strategy of the University Center, the dissemination of

the contest for World Water Day was conceived as an action, with the students of the Bachelor's degree in Primary Education, who with their students in the different schools worked the call, achieving the largest number of participants at this educational level. In addition, urban pre-university students participated, by disseminating the call with Chemistry teachers.

The requirements to be considered for the comprehensive approach to environmental education were contextualized by the Environmental Training Network for Latin America and the Caribbean in the UN (2017), among which the following stand out:

1. A systemic, integral and dynamic vision of the environment, assumed as the result of the relationships between society, nature and cultures, and that leads to critical and constructive thinking.

2. An educational proposal, in the various expressions of formal, non-formal and informal education, with eminently participatory, intercultural bases, with a gender approach and community and intergenerational links.

3. Fundamental elements referring to global environmental problems and their regional and local expressions, in this particular case; sustainable consumption and production. All this linked to environmental management, including economic benefits for saving water.

4. Interdisciplinary analyzes from the different natural, human and social sciences or disciplines (such as chemistry, biology, geography, philosophy, education, history).

5. Technological, technical and application aspects, coming from health sciences, engineering, agronomy, agro forestry, physical education, among others.

6. Recovery and revaluation of traditional, ancestral and local knowledge, accompanied by the study and understanding of the various worldviews.

7. Contributions aimed at promoting creativity and awareness, counting for this on the confluence of the various expressions of art, such as music, oral narration, drawing, literature.

8. Fundamental elements of environmental communication and environmental citizenship, as well as considerations on the interpretation of natural and cultural heritage.

9. An ethical livelihood, recovery and implementation of fundamental values and solidarity with people, with nature and with peace, towards the common good.

Tables 4 and 5 describe the results of the contest in the format of the systematization of the experience and the summary sheet, as consulted (ONU, 2017).

Table 4- Systematization format of the experience

Basic information of the experience	
Name of the experience	Contest for World Water Day
Country	Cuba
Main responsible institution	Municipal University Center "Capitán Silverio Blanco Núñez"
Participating institutions or groups	Municipal Directorate of Education, Cuban Association of Agricultural and Forestry Technicians (ACTAF)
Coordinating person (name and surnames, position, telephone, email)	Dr. C. Raquel de la Cruz Soriano, profesor, 53-41663679, raquel@uniss.edu.cu

Place of implementation	local schools	anniversary of the "José Martí" Pioneers Organization and the Union of Young Communists.
Main beneficiaries	Students, teachers, community	
Start and end date	January-April 4 of the years 2017, 2018 and 2019.	
List of documents and accompanying materials	Call for the contest. Award certificates. Report of the contest. Works done by the pioneers.	
Additional information	Excel file on the contest statistics per year	
Presentation of the reconstruction process and analysis of the experience based on the information and consultations.		
Experience Overview		
Important moments and analysis of the strategies that allowed to achieve the main achievements	The contest is called in the first week of January of each year. During the period between January and the first fortnight of March, the motivation to participate in the contest is reinforced. On March 22, the collection of the works presented to the call is carried out. From that day on, the evaluation of the works presented is carried out and the works to be awarded are selected by categories and the different levels of education. In addition, the certificates are made and the stimuli to be delivered to each author and institution are distributed. On April 4, the award ceremony is held on the occasion of the celebration of an	
Main beneficiaries	The beneficiaries are the teachers and students, who delve into the study of the subject matter covered in the contest; they are updated in the knowledge about the sustainable and rational use of water and can share that knowledge in the family and in the community.	
Institutions and/or groups that collaborated in the process	Municipal Directorate of Education, directors and teachers of primary schools, basic secondary and pre-university.	

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Main obstacles to the process and major difficulties during the actions	The main obstacles are related to the availability of paper and print media to publicize the call, as well as the variety of incentives to be delivered.	Balance of verifiable results	The participation of 110 pioneers and students, nine schools, teachers and professors of the University Center, as well as the family of the pioneers and young people, has been achieved, which allows the dissemination of the World Water Day anniversary as a significant action of environmental education, in correspondence with the priorities of the Cuban state and the Life Task for confronting climate change.	
Financing of the experience, sources of resources	ACTAF, the University Center and personal contributions from professors have contributed.		sustainability	The contest has been held for three consecutive years with an increase in the number of participants, the quality of the works presented, and the motivation of those involved.
Impacts in social, cultural, environmental and socioeconomic spheres	Raising awareness of the participants in their care. The search for new knowledge and measures of rational use and the encouragement of investigative activity in children and young people on environmental issues. The contextualization in the educational strategy of our socialist social project when the award ceremony was held within the framework of the celebration of two significant historical dates in Cuba for children and young people.		Learned lessons	Working on environmental education issues through the contest is an interesting alternative, which mobilizes students, teachers, family and local entities, in order to achieve learning in a pleasant way, contextualizing local sociocultural aspects, the enjoyment of free time in the acquisition of knowledge, the proposal of solutions, the training and the enrichment of

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	environmental values. It requires effort, industriousness, love, commitment, but it shows that with everyone's effort, it can be done!		teachers; the treatment of an environmental issue prioritized by the Cuban state.
Balance of results obtained			
Main achievements and impacts	<ol style="list-style-type: none"> 1. Environmental culture is increased, specifically on the sustainable use of water resources, verified in the quality of the drawings, poems and tents presented to the contest. 2. There is a material that constitutes a local pedagogical product for the sensitization of pioneers and students in the subject addressed. 3. The link between the Municipal University Center and other educational levels (primary, secondary and pre-university) is achieved. 4. It is systematized with the pioneers, students and 	<ol style="list-style-type: none"> 5. Water saving measures are applied in the school context, in entities and in the community. 6. A cultural transformation is carried out on the water resource in response to the Life Task. 7. The level of awareness of people about the urgency of protecting this resource is raised, confirmed in interviews during the exchange with the participants. 	
		Difficulties and brakes of the process	The difficulties are that they do not have their own expendable resources to carry out the work, and other types of resources for the awards.

Strategies Lessons	If a correct dissemination and motivation of the participants is carried out, the participation of teachers and students is achieved. Family participation must continue to be emphasized and the opportunity must be taken so that they can implement savings measures at home and in the community.
Proposal for the future	Continue holding the contest annually and involve the House of Culture, to include other artistic manifestations within the call.
Proposal to disseminate/share the results	
Forms of dissemination of the results of the systematization of the experience, to various audiences/sectors in the country and in the region	Prepare a brochure with the educational product. Prepare brochures with the texts prepared by the participants and disseminate them. Publicize the call and the winners through the local radio station The voice of Cabaiguán. Participate in a scientific event with a presentation on the results obtained. Prepare a scientific article.
Proposal to share the lessons learned with other similar experiences	Participate in the University Extension Fair of the University of Sancti Spiritus. Carry out consultancies and share the experience with other universities and

	municipal University Centers in the country.
Use of media and possible technical, technological and artistic alternatives	Local station The Voice of Cabaiguán. Community communication products: brochures, bulletin on the subject.
Main conclusions and recommendations	
General conclusions about the experience	Educating members of society from an early age on the sustainable use of resources, the duty to protect them, mitigation strategies for negative impacts and adaptation to climate change is essential in the formation of a responsible environmental awareness; To this end, carrying out extracurricular activities by students is a novel way to raise awareness and commitment to the transformation of modes of behavior in the use of water resources. The systematization of the experience on the contest held for World Water Day is achieved, with the participation of students from different teachings in the locality, one of the actions of the educational strategy for the protection of water resources in the community.

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<p>Conclusions on possibilities/alternatives of continuity or replication of the experience in other localities of the country or in other countries</p>	<p>It is considered a necessity to carry out this type of initiative in other Cuban localities or in other countries, since children are an important part of the population, who affect the school, family and community context, always with the suggestion of taking advantage of socio-cultural issues, the cultural, patrimonial and ancestral roots of each country.</p>	<p>Recommendations for exchanges of experiences with other countries</p>	<p>The exchange with other countries can be carried out through the use of the platform, the Ibero-American Environment Network, the dissemination of papers, participation in scientific events, exhibition fairs of university extension, environmental fairs in communities.</p>
<p>Conclusions on the main needs in the future to strengthen and deepen this type of experience (academic aspects, training, operational, logistical, economic issues, others)</p>	<p>Future needs are focused on an inclusive, free education for all, based on scientific bases as Cuba tells; Not all the countries of the region have created the institutions so that all children have these opportunities, since it is from the school where these types of initiatives can be planned, organized and executed in an enthusiastic way, encouraging the appropriation and application of environmental content. A minimum of resources is required for the teachers, professors and students to elaborate their works and then reward the best works.</p>	<p>Recommendations to strengthen environmental education processes with a comprehensive approach in the country and in Latin America and the Caribbean</p>	<p>Environmental education can be strengthened through a greater use of possible scenarios (schools, universities, protected areas, communities, scientific research and the introduction of results with concrete environmental, social and economic benefits in a growing dynamic, which population perceives it, gets involved, that is, systematizes environmental knowledge, gets involved in solutions and deepens environmental values. Only a socialist society that promotes solidarity, justice, honesty, industriousness, saving resources can effectively implement this education.</p>

Other recommendations	Show every day at least one action that demonstrates a conscious and consistent attitude with environmental education. As Raúl said: yes it could, yes it can and yes it will, that means many things, especially optimism and perseverance.
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Source: prepared from the Environmental Training Network of Latin America and the Caribbean (2017)

Table 5- Summary record format

Summary sheet	Contest for World Water Day
Made by:	Dr. C. Raquel de la Cruz Soriano
Other collaborating institutions:	Cuban Association of Agricultural and Forestry Technicians (ACTAF).
Person in charge	Municipal president of the NGO
Place and date	Cabaiguán, March 1-April 4, 2017, 2018 and 2019.
Participants	Teachers, students of the Bachelor of Primary Education, pre-university students, basic secondary and primary schools, and the classroom of the elderly.
Elements of the comprehensive approach	1. A systemic, integral and dynamic vision of the environment; assumed as the result of the relationships between society, nature and cultures, and that leads to critical and constructive thinking.

	<ol style="list-style-type: none"> 2. An educational proposal, in the various expressions of formal, non-formal and informal education, with eminently participatory, intercultural bases, with a gender approach and community and intergenerational links. 3. Fundamental elements referring to the problems associated with water resources with their local expression, for sustainable consumption; linked to environmental management, including economic benefits for saving water. 4. Interdisciplinary analyses, coming from the different sciences or natural, human and social disciplines (such as chemistry, biology, geography, philosophy, education, history). 5. Recovery and revaluation of traditional, ancestral and local knowledge, (tenth, traditions of caring for plants, gardens, poetry, and the study and understanding of
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	<p>the various worldviews.</p> <p>6. Contributions aimed at promoting creativity and awareness, counting for this on the confluence of the various expressions of art, such as music, oral narration, drawing, literature.</p> <p>7. Fundamental elements of environmental communication and environmental citizenship, as well as considerations on the interpretation of natural and cultural heritage.</p> <p>8. An ethical livelihood, recovery and implementation of fundamental values and solidarity with people, with nature and with peace, towards the common good, according to international and considered documents (CITMA, 2017).</p>		<p>the participation of schools from urban, suburban and rural areas.</p>
		<p>Objective and general development of the project</p>	<p>Implement an educational environmental strategy in constant updating and development, in accordance with the sociocultural characteristics and the local context, to specify the environmental strategy of the Municipal University Center and the actions of the Life Task, to confront climate change.</p>
		<p>Important moments</p>	<p>The contest is called in the first week of January of each year. During the period between January and the first fortnight of March, the motivation to participate in the contest is reinforced. On March 22, the collection of the works presented to the call is carried out. From that day on, the evaluation of the works presented is carried out and the works to be awarded are selected by categories and the different levels of education. In addition, the certificates are made and the stimuli to be delivered to each author and institution are distributed. On April 4, the award ceremony is held, on the occasion of the celebration of an anniversary of the Organization of Pioneers "José Martí" and the Union of Young Communists</p>
<p>Context</p>	<p>It is carried out in a socialist society where education is a right of citizens, established in the constitution of the Republic. Particularly in a municipality where agricultural activity predominates, achieving</p>	<p>achievements and impacts</p>	<p>The environmental culture is increased, specifically on the sustainable use of water resources.</p>

Translated from the original in Spanish

	<p>There is a material available that constitutes a local pedagogical product, for the awareness of pioneers and students in the subject addressed. The link of the Municipal University Center with pre-university education and other teachings is achieved.</p> <p>The treatment of an environmental issue prioritized by the Cuban state is systematized with the pioneers, students and professors.</p> <p>Water saving measures are applied in the school context, in entities and in the community. A cultural transformation is carried out on the water resource in response to the Life Task. The level of awareness of people about the urgency of protecting this resource is raised.</p>		<p>to be emphasized and the opportunity must be taken so that they can implement savings measures at home and in the community.</p>
Difficulties	<p>The difficulties are that they do not have their own expendable resources to carry out the work, and other types of resources for the awards.</p>	<p>Conclusions about the experience</p>	<p>Educating members of society, from an early age, in the sustainable use of resources, the duty to protect them, mitigation strategies for negative impacts and adaptation to climate change, is essential in the formation of a responsible environmental awareness; To this end, carrying out extracurricular activities by students is a novel way to raise awareness and commitment, with the transformation of modes of behavior in the use of water resources. The systematization of the experience on the contest held for World Water Day is achieved, with the participation of students from different teachings in the locality, one of the actions of the educational strategy for the protection of water resources in the community.</p> <p>It is considered a necessity to carry out this type of initiative in other Cuban localities or in other countries, since children are an important part of the population; they affect the school, family and community context, always with the suggestion of taking advantage of socio-cultural issues, the cultural, patrimonial and ancestral roots of each</p>
sustainability	<p>The contest has been held for three consecutive years, with an increase in the number of participants, the quality of the works presented, and the motivation of those involved.</p>		
Learned lessons	<p>If a correct dissemination and motivation of the participants is carried out, the participation of teachers and students is achieved. Family participation must continue</p>		

Translated from the original in Spanish

	<p>country. Future needs are focused on an inclusive, free education for all, based on scientific bases as Cuba tells; Not all the countries of the region have created the institutions so that all children have these opportunities, since it is from the school where these types of initiatives can be planned, organized and executed in an enthusiastic way, encouraging the appropriation and application of environmental content. A minimum of resources is required for the teachers, professors and students to elaborate their works and then reward the best works.</p>
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drawing category, and two Mentions for the drawing category.

With the realization of the contest, treatment is given to environmental and political and ideological education of socialism, by addressing different phrases about the Environment and education. In this year, Fidel's phrase pronounced in the Speech delivered at the III National Conference of the BTJ was disclosed:

The humanity of the future has very great challenges in all areas. A humanity that is multiplying vertiginously... that sees with concern the depletion of some of its natural resources... that will need to master the technique and not only the technique but even the problems that the technique can create, such as the problems, for example, of the pollution of the environment. And that challenge of the future can only be faced by societies that are truly prepared (Castro, 1975).

Source: elaborated from UN (2017)

The Local Orientation and Training Center (CLOC), the ANIR and the ACTAF of the "Capitán Silverio Blanco Núñez" Municipal University Center, of Cabaiguán, convened the contest in January 2017, with the theme: Water source of life. We must protect it and use the necessary one.

This year, the students of the Course by Meetings influenced the participation of students from two primary schools in the urban area of the municipality: "Camilo Cienfuegos Gorriarán" and "Manuel González Crespo", with a total of 26 pioneers and 25 jobs. Of them: a poem, three texts and 21 drawings.

Two Relevant prizes were awarded in the drawing category, one relevant prize for poetry, two outstanding prizes for the

In 2018, six educational institutions of the municipality participated: EP "Julio Piñero", EP "Camilo Cienfuegos Gorriarán", EP "Noel Sancho Valladares", EP "26 de Julio", ESBU "Conrado Benítez García" and the IPU "Nieves Morejón López" and a total of 45 students, including 43 pioneers and two pre-university students. Of the pioneers: 16 from the first cycle of primary education, 26 from the second cycle and one from junior high school. Mention is made of the participation of a child from the Educate your Child Program in the Popular Council of Santa Lucía and an art instructor from this locality.

Two prizes were awarded to Pre-university, one to Basic Secondary and seven to Primary Education. The participation of six schools in

the municipality was achieved in 2019: Route No. 3: PS "Julio Piñero" and PS "Sergio Soto", PS "Camilo Cienfuegos Gorriarán", PS "Noel Sancho Valladares", PS "26 de Julio", EP "Noel Sancho Valladares" and the IPU "Nieves Morejón López", with a total of 38 students, including 35 pioneers (from the second cycle) and three pre-university students. Table 5 shows the data by school.

Two prizes were awarded to Pre-University, 10 to Primary Education. Figures 3 and 4 totalize the students who have participated in the contest by school and educational level each year.

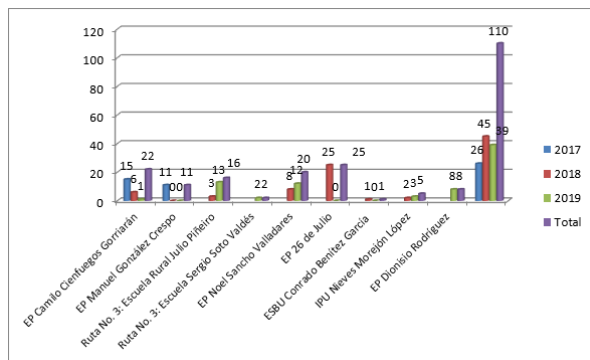


Fig. 3- Participants in the contest by school

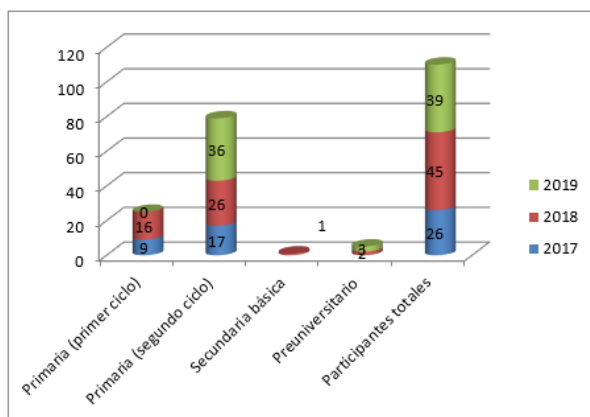


Fig. 4- Participants in the contest by educational levels

The realization of the contest achieved qualitative impacts, in the opinion of the authors and the participants, by increasing the environmental culture, specifically on the sustainable use of water resources, by students and teachers in the school environment, in the family and the community. A pedagogical product was developed, which can be used as local cultural heritage to sensitize pioneers and students on the topic addressed. The link of the University Center was achieved in the systematization of an environmental issue prioritized by the Cuban state at the present time with the pioneers, students and teachers of previous educational levels. The application of water saving measures in the school context, in entities and in the community is encouraged. Contributed to the cultural transformation of the water resource in response to the Life Task, which raises people's level of awareness of the urgent need to protect this resource, due to its high demand and the effects of climate change.

Another result obtained was the elaboration of a brochure with all the works presented by the students, which is considered a cultural contribution of all the participants in the contest.

From the systematization with the realization of the contest, the following social and environmental benefits were valued: the participation of nine school institutions and 110 students of the municipality; one of the actions of the educational strategy for the protection of water resources was consolidated, achieving the awareness of the participants in the saving and protection of water; From the learning, it was possible to promote the implementation of saving measures by the participants; the contribution to the environmental education of students, teachers, family and the community, responding to the environmental education strategy of the Municipal University Center "Capitán Silverio Blanco Núñez" and one of the environmental contents (saving and protection of water)

DISCUSSION

The authors, after analyzing contests with similar characteristics (Cuban Association of the United Nations, 2017), (Saavedra, 2009), considered it novel to propose a contest as a local initiative, and thereby take advantage of the potential of having an educational strategy for the protection of water resources, associated with the environmental education strategy of the Municipal University Center and the strategy for the educational work of students, particularized to teachers in training.

There is a coincidence with Rodríguez and Bueno (2020) and the Cuban Association of the United Nations (2017) in the type of work: drawings and texts (poems, compositions, letters), according to the preference of the participants. Project proposals are not considered as a form of work to be presented by the participants, due to the ages of the participants.

In this way, a proposal was applied that enhances environmental education and awareness of teachers, family and the school community; and favors interaction between teachers in training at the Municipal University Center and their students in the municipal schools.

The contribution of the contest is distinguished by the contextualization in the locality, the promotion of the commemoration of World Water Day, oriented to the sustainable use of the resource, relying on the potentialities of children at an early age for the expression of feelings, motivations and the formation of an awareness in favor of the Environment through drawing and writing texts.

There is coincidence with the criteria addressed by Santos, Laportilla and Castro (2020) and Laportilla and Arteaga (2017), on education as a complex process of preparing subjects for sustainability; key to renewing

values and perception, developing an awareness and commitment that makes change possible, from small individual attitudes and from citizen participation and involvement in solving problems, before adopting healthier lifestyles. The results of the works presented by the contestants constituted a brochure, which was considered by the group of teachers to be the cultural contribution of the students and, in turn, a pedagogical product to influence the environmental education of the students.

The contest promoted contributes to educating members of society from an early age in the sustainable use of resources; the duty to protect them, the mitigation strategies of negative impacts and adaptation to climate change, is essential in the formation of a responsible environmental conscience. To do this, carrying out extracurricular activities by students is a novel way to raise awareness and commitment to the transformation of modes of behavior in the use of water resources and thus specify the learning-learning strategy, progressing progressively from the acquisition from theoretical knowledge to the appropriation of methods, procedures and involvement in sustainable water use practices at home and in the community, resulting in the consolidation of environmental values.

The systematization of the experience on the contest held for World Water Day is achieved, with the participation of students in the town of Cabaiguán, one of the actions of the educational strategy of the Municipal University Center for the protection of the resource in the community.

BIBLIOGRAPHIC REFERENCES

- Asociación Cubana de las Naciones Unidas (2017). Celebrando los 20 años del Concurso Trazaguas. La Habana: ACNU. Recuperado de: <http://www.acnu.org.cu/articulos/celebrando-los-20-anos-del-concurso-trazaguas>
- Castro, F. (1975). Discurso pronunciado en la III Conferencia Nacional de las BTJ.
- Centro de Información, Divulgación y Educación Ambiental, Agencia de Medio Ambiente Ministerio de Ciencia, Tecnología y Medio Ambiente, (CITMA, 2016). *Estrategia Nacional de Educación Ambiental. Cuba, 2016-2020*.
- CITMA. (2017). *Enfrentamiento al Cambio Climático en la República de Cuba: Tarea Vida*.
- De la Cruz S. R., Hernández S. F. y Marrero, N. (2018). Estrategia educativa para la capacitación de la comunidad en la protección del recurso agua. *Premio de Innovación Tecnológica a nivel provincial otorgado por el Ministerio de Ciencia, Tecnología y Medio Ambiente (CITMA)*: Sancti Spiritus.
- De la Cruz, S. R., Guevara R. O., Gotera E. P., Hernández S. F., Ledesma S. G., Presilla A. B., García S. A. (2018). Acciones de capacitación para la mejora del manejo de los residuos sólidos urbanos y la protección del agua. *Revista Iberoamericana Ambiente & Sostenibilidad*, 1(1). <https://ambiente-sustentabilidad.org/index.php/revista/issue/view/2>
- Lanuez M., Martínez M. y Pérez V. (2010). *El maestro y la investigación educativa en el siglo XXI*. La Habana: Pueblo y Educación.
- Laportilla Estévez. N. D. y Arteaga González, S. (2017). Apuntes para fundamentar el perfeccionamiento de la Educación Ambiental para el Desarrollo Sostenible en los Planes de Estudios y Programas del Sistema Nacional de Educación. En Colectivo de autores (2017). *Perfeccionamiento de la educación ambiental para el desarrollo sostenible en el sistema nacional de educación*. Centro Nacional de Áreas Protegidas. La Habana, Cuba.
- López, V. E. (2020). El agua en Cuba: experiencias de educación ambiental. Brasil. Recuperado de: <https://capacitacao.ana.gov.br/conhecer/bitstream/ana/2774/12/Cuba.pdf>
- ONU (2017). *Sistematización de nuevas experiencias sobre educación ambiental con enfoque integral en América Latina*. Red de Formación Ambiental para América Latina y el Caribe. ONU Recuperado de: https://formacionambientalpnuma.files.wordpress.com/2017/11/reporte_experiencias_2017.pdf
- ONU (2015). *Transformar nuestro mundo: la Agenda 2030 para el Desarrollo Sostenible*. Cumbre del Desarrollo Sostenible. ONU. 41p.
- Palomino Fonseca., D. y Álvarez Fonte, B. L. (2016). Estrategia educativa para la educación ambiental y su tratamiento por la familia en la comunidad. *Revista Mendive*, 14(4). P: 345-351. Recuperado de: <http://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/890>

Translated from the original in Spanish

<https://mendive.upr.edu.cu/index.php/MendiveUPR/article/view/2382>

Rodríguez, C. A. y Bueno S. E. F. (2020). 23 años de resultados excelentes en el Proyecto de agua amiga de niñas y niños. Instituto Nacional de Recursos Hídricos: La Habana. Recuperado de: https://trabajos.pedagogiacuba.com/trabajos/0Amneris%20Rodr%C3%ADguez%20Carreras_%2023%20A%C3%91OS%20DE%20RESULTADOS%20EXCELENTES%20EN%20EL%20PROYECTO%20DE%20AGUA... - convertido.pdf

Saavedra, C. (2009). El manejo, protección y conservación de las fuentes de agua y recursos naturales. Un aporte

al III Concurso Fiesta Nacional del Agua (Mancomunidades de municipios andinos y subandinos de Bolivia). Recuperado de: <http://www.asocam.org/sites/default/files/publicaciones/files/1ebab9c614ea59c9de0d3a044f34c1f5.pdf>

Santos, A. I, Laportilla E. N. D. y Castro S. L. (2020). El perfeccionamiento de la educación ambiental en el sistema nacional de educación como política pública en cuba. *Revista Cub@: Medio Ambiente y Desarrollo* 20(38), 1-11. Recuperado de: <http://www.cmad.ama.cu>

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The authors declare that they have no conflicts of interest.

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The authors have participated in the writing of the work and analysis of the documents.



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