

Proyecto de educación ambiental en función del desarrollo local sostenible

Environmental education project based on local sustainable development

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Resumen: Integrar la escuela secundaria básica a los procesos de desarrollo local favorece la capacidad para orientar la educación a la interacción con los desafíos presentes y futuros. El presente trabajo tiene por objetivo exponer cómo la escuela puede tributar al desarrollo local a partir de integrar la educación ambiental y los proyectos de mejoramiento educativos. Se utiliza la sistematización de experiencias como metodología esencial para conformar el proyecto que se expone como principal resultado obtenido de las actividades ejecutadas por los autores en el contexto educativo de la escuela secundaria básica Julio A. Mella del municipio de Placetas.

Palabras clave: Desarrollo local sostenible; Secundaria básica; Educación ambiental; Proyectos educativos.

Abstract: Integrating basic secondary school into local development processes fosters the ability to direct education to interaction with present and future challenges. The objective of this work is to expose how the school can contribute to local development by integrating environmental education and educational improvement projects. The systematization of experiences is used as an essential methodology to form the project that is exposed as the main result obtained from the activities carried out by the authors in the educational context of the Julio A. Mella of the municipality of Placetas.

Keywords: Sustainable local development; High school; Environmental education; Educational projects.

Introduction

The education professional training requires a competent teacher, with a comprehensive general culture, that allows him / her to use and master the latest advances in science and technology, with solid pedagogical and didactic knowledge, from a perspective of equity and environmental sustainability. that contributes to the fulfillment of objective: 4 of the United

Nations Program for sustainable development, which defines: “Guarantee inclusive, equitable and quality education and promote lifelong learning opportunities for all” (UN, 2015). However, the practicing teacher in charge of guaranteeing and equipping the student with that culture, manifests insufficiencies, which limit their way of acting, in correspondence with these demands.

In educational practice, and specifically in the teaching-learning process of the History and Social Sciences career, a weak presence of the environmental component in the content system of the disciplines and subjects that make up the curriculum is observed, despite of the progress that environmental education has had in Cuba and of constituting this a claim of the international institutions and summits developed since 1948 in Fontainebleau, France, until the Rio + 20 Summit in Brazil.

It is pertinent to develop a coherent work with the purpose of revealing the environmental in the didactics of the curriculum of the career of History and Social Sciences, which overcomes the traditional conceptions and methods of the teaching-learning process and allows to systematize a didactic conception of environmental education in the teacher in training of said career.

Revealing the environment in the career curriculum complements the training of the future teacher, demonstrates the educational potential, which from the point of view of environmental ethics has the knowledge system of these subjects, since it gives a renovating and flexible character to the Social and historical sciences, that is, it allows analyzing the contents from another perspective, according to the difficult times in which humanity lives. For these reasons, the purpose of this article is to systematize a didactic conception of environmental education in the training of the History and Social Sciences teacher.

The peculiarity of the process of shaping the didactic conception is determined by considering three levels of systematization as a research method: a first level consisting of the theoretical preparation of teachers that allows them to assume the theoretical foundations of environmental education; A second level was aimed at preparing teachers through workshops, using the action research method with a qualitative approach, in which they systematized experiences and knowledge that allowed the structural components of the didactic conception to be shaped from an environmental perspective; and a third level of practical theoretical

systematization in which the didactic conception was structurally organized. It is at this level that attention is focused and the result obtained is exposed.

Development

For education, the essential purpose is the multilateral training of children and young people who think and act creatively and are capable of building the new society. The school plays a fundamental role in the formation of their personality, the level of mastery of what is learned in this space has to guarantee that students acquire knowledge of high scientific rigor and develop skills and behavior habits in accordance to contemporary demands. One of these requirements seeks to educate young people as people integrated into society and especially in the local space, where they must be increasingly protagonists.

The subjects taught at school should be increasingly connected to the problems and situations of all kinds that students face, the activities planned should promote knowledge of the local environment and contribute to students learning to manage knowledge and face situations that could very well exist in your future as citizens of a certain place.

In the Conceptualization of the Cuban Economic and Social Model of Socialist Development (Communist Party of Cuba, 2017), the vision of the country to be built is defined and the importance of the initiatives of the municipal and provincial governments focused on local development is revealed. Focusing on giving more and more autonomy to the territories, in addition, this does not only refer to technical production processes, it also includes environmental preservation, since its incorporation is strategic for the future development of humanity.

Local development programs and projects have a double objective, according to Monje (2004); first, to ensure better material conditions and sustainability of society and second, to strengthen the identity and subjective conditions of local communities. It also states that in the identity formation processes, the territorial component is a basic ingredient. From the above it follows that local development cannot be on the margin of sustainability. Ojeda (2004), assumes that the process of formation and development of the conceptual and methodological base of the social actors has been directed towards a vision of sustainable local development and characterizes it for addressing vital problems such as the necessary

food security and environmental quality, in correspondence with the management of natural resources and strategic ecosystems, which generates local human development, where ethical problems and gender perspectives acquire greater relevance in a territory.

Conceptual notes that pay tribute to sustainable local development from environmental education at school.

Regarding the term development and what is assumed as “local”, it is possible to identify the concept of local development, for this it is important to highlight what a local actor is. Arocena (1998) considers that one way to define an actor is by relating him to the social scene in which he performs his action. In this case, we are referring to individuals, groups or institutions whose system of action coincides with the limits of local society. This is how local actors are organized neighbors who try to improve the quality of life of a neighborhood, a locality, or a certain rural area, but local actors are also organized to maintain and reproduce a certain situation that produces destruction of wealth. natural and destructuring of social fabrics.

Ojeda (2004) states that, we call “actors” not only the people or institutions that carry out direct actions in the territory, but also all the structures, organizations and people that, by mission or action, have a place and a role in the gears of local exchanges. Actors and agents are all those who make decisions that affect the territory.

In this work, production and service centers, popular government bodies, popular councils, communities and independent producers are assumed as local actors.

Local development is defined by Vázquez –Barquero (cited by Boisier, 1999), as “(...) the processes of socio-economic change of a structural nature, geographically delimited (...) whose ultimate goal is progress permanent territory” (p.13). Its objective is to provide the best welfare to local citizens.

In another order are authors such as Marsiglia (1997), who ventures into local development and management. Arocena (1998), addresses what is related to the role of decentralization and defines it; while Monje (2004) defines this development and proposes a set of dimensions that typify it, such as the economic, social, cultural, environmental, and territorial physical.

It coincides with Tejeda, Santos and Navarro (2009) when they define that:

Sustainable local development is an integral process of social, economic and environmental transformations, which allows the participation of the population in the identification, planning, execution, monitoring and evaluation of their own decisions, based on the strategies outlined to guarantee their development, raise the level and quality of life, as well as enrich the value formation of the entire population. (p.6)

According to Guzón (2006), the following principles should be promoted to implement a sustainable local development model:

1. Integral and systemic approach to development, which links the environmental, economic-productive, socio-cultural and institutional dimensions in an inseparable way.
2. Taking advantage of the existing structures in the municipality, having the Popular Power as leader of the process.
3. Use and expansion of existing spaces and channels of participation.
4. Design of the training and formation of the actors.
5. Knowledge management, innovation and technology transfer, as the basis for appropriate solutions.
6. Identification and mobilization of the productive potentials, of the geographical and environmental characteristics of the territory, as well as of the local human capital, with its historical and cultural values.

In general, when referring to the principles for achieving sustainable local development, an important group of authors coincide in mentioning the following: training of human resources, innovation, and care and preservation of the environment contributing to local development from school is a step that should not be neglected.

Education becomes the main tool that society has to create new assets in order to transform the existing reality, prioritizing that initiatives link educational institutions with other social actors such as the family or other community components, which can stimulate strategies for building citizen capacities and rights that favor certain levels of development.

- In the integration of the Cuban basic secondary school to other actors based on a sustainable local development based on environmental education, it is necessary to deepen the possibilities of the school, among these aspects it is necessary to highlight:

- The school prepares the population that drives or will drive local development, the human capital that is vital in the development of local policies.
- The school can be a point of debate that becomes a guiding axis in the projections of local development strategies.
- Education professionals are prepared agents who can implement policies aimed at local development and stimulate the dissemination and implementation of any action in this regard.

It is important that the relationship with other local actors must be coordinated, which does not presume an unnecessary subordination to a certain mandate, but rather be inserted in an institutional framework that increases well-planned collective efforts. The school, assuming the active role that corresponds to it, can recommend, plan and execute actions that find support from local institutions and that generate projects that contribute to local development strategies.

The Cuban school must achieve the confluence of various experiences and ways of doing to achieve educational change to integrate with more relevance in the spatial framework where it carries out its formative work. That is why it must be more open and inquiring, capable of bringing together all social actors in the task of generating human capital prepared to transform its reality.

For Llivina, Castellanos, Castellanos & Sánchez (2001), the school can develop scientific activity through the development of projects, described as:

Action plan of a prospective and integrating nature, where tasks, resources and time are anticipated and articulated based on the achievement of specific results and objectives that produce certain benefits and contribute to the solution of development problems in different spheres. (p.2)

These authors consider educational improvement projects among the most feasible, which are distinguished by being more specific in terms of their projection in the face of a problem or process that requires immediate intervention. Due to its flexible, participatory character, development purpose and systemic nature, they constitute a valuable way to connect the school community to local sustainable development processes, with environmental education being a key transversal axis for articulating proposals.

The integration of basic secondary school into local sustainable development, finds a key point in the environmental edge, it constitutes one of the nine essential educational elements for this level of education (MINED, 2016) and is considered a basic dimension of local sustainable development included in the Placetás local development program. (Local Development Program Plates, 2005)

In 2005, the Ministry of Science, Technology and Environment (CITMA) defined environmental education as:

Environmental education is considered a continuous and permanent process, which constitutes a dimension of comprehensive education for all citizens, aimed at harmonizing the processes of acquiring knowledge, developing habits, skills and attitudes and forming values. relationships between men, and between them with the rest of society and nature, thereby promoting the reorientation of economic, social and cultural processes towards sustainable development (...). (p 26 -27)

Under this criterion, environmental education should be aimed not only at harmonizing the relationship between nature and society, but also at promoting sustainable development; therefore, the role of the school to guide environmental education and its link with local development that is promoted in the space where the educational center carries out its activity must be highlighted.

This relationship should be expressed in the conjugation of existing experiences in educational terms to analyze environmental problems and the search for exchange with social agents that interact in the territory. It is about articulating the local development strategy to the curricular spaces that the school possesses, thus promoting a nuanced formation not only by knowledge, but also by exchange, inquiry, solution proposals, modeling and planning of different scenarios, it is not only to face the students to the problems but to involve them with the existing possibilities to give new course to the challenges of the environment.

The systematization of experiences to form an environmental education project based on local sustainable development.

1. The systematization carried out in the 2016-2017 stage according to the criteria of Van de Velde (2008) was aimed at determining the possibilities that exist to integrate basic

secondary school into local development processes based on environmental education. The fundamental moments were structured like this:

2. Diagnosis of the main experiences and axes of local development and their link with the school.

3. Characterization of the school curriculum and environmental education actions.

As the main result obtained, the existence of activities carried out by teachers with their groups in different institutions could be defined, the concretion within the educational project of the center of circles of interest and student research groups with issues related to the environmental line and linked to different actors social of the territory.

As local development lines, those related to food production, the training of local government structures to promote the development of the territory, as well as the strengthening of the environmental dimension, energy efficiency and the use of renewable energy in function of the sustainable development of the locality.

From these premises, the following directions are incorporated into the project:

1- Preparation of the school population to promote environmental education for sustainable local development, based on knowing the key elements.

2- Assume the possibilities offered by the local development plan of the Placetas municipal government and temper it to the possibilities it has to generate educational actions.

3- Facilitation for linking the school population and local actors on the basis of studying and promoting actions that favor sustainable local development based on environmental education and articulating mechanisms to carry out actions.

4- Carrying out coordinated actions for sustainable local development based on environmental education, which combines the school population, local actors and the community.

- Promote among school teachers the knowledge about the role of sustainable local development based on environmental education and the importance of implementing cooperative actions as a way of integral development of the local territory.

This project works on key lines for sustainable local development that guide the incorporation of the school to streamline and help the implementation of territorial government policies and joint work with other actors, so that the school contributes to sustainable local development from of environmental education regarding:

- Support in the management and training of the student to achieve food security.
- The school as manager and promoter of environmental education.
- Support in the development of production and service infrastructure
- Contribute to the training of the school educational community as promoters of local development at the community level.

In these essential edges, the school aims as a social institution:

Contribute to strengthen knowledge about food security problems from:

Trabajo curricular de docentes y alumnos para el desarrollo de una cultura económica que reconozca el problema de la alimentación, como un problema de seguridad nacional.

- Development of extracurricular and productive activities, where students are inserted into work in urban agriculture, based on the possibilities offered by the creation of circles of interest or educational improvement projects.
- Creation of educational improvement projects or student research groups (CIE), which, from the research activity, reveal those areas in the territory with potential for the development of urban agriculture.
- Presentation of the results to government agencies and representatives in the territory.

The school as manager and promoter of environmental education from:

- Diagnosis of the environmental problems of the territory and, essentially, the community.
- Creation of a circle of interest for the conservation and improvement of the environmental quality of the waters in the territory.
- Creation of student research groups based on the investigation of the problems of soil deterioration and the loss of biodiversity in the territory.

- Presentation of the results to government agencies and representatives in the territory
Contribute to strengthen knowledge about the problems of developing a production and service infrastructure from:
- Creation of circles of interest on local productions and services in the territory that contributes to the formation of an economic culture.
- Creation of student research groups on the potential of the territory's resources based on productive activity.
- Support in opinion polls to the population on the degree of satisfaction with the quality of local productions and services.
- Presentation of the results to competent bodies and government representatives in the territory.

Contribute to the training of the school educational community as promoters of local development at the community level.

Favor the dissemination and generation of content necessary to communicate the different processes that contribute to environmental education and sustainable local development.

Encourage issues of local relevance to the teaching activity of the school.

The project activities within the school curriculum occupy different spaces and assume different modalities, they are: circles of interest, student research groups, technical and social projects, guided visits, conversations, excursions, vocational orientation activities and complementary programs.

Notes on the experiences provided by the project.

The project was applied at the "Julio Antonio Mella" Basic Secondary School in the municipality of Placetás in Villa Clara; different actions were implemented in conjunction with the school population and other local actors in certain spaces in the aforementioned directions and guidelines.

Among the most outstanding it is worth mentioning the development of the circle of interest: The family raising of rabbits whose objective was: to develop the motivation for raising

animals of economic interest and easy to handle for students and their families. Activities were carried out to find out the ways of raising, the breeds, the types of food and ways of balancing the diet of the animals, knowledge of the main diseases that affect them, how to build the breeding infrastructure, use of medicines and management measures to avoid diseases, as well as the economic value and the advantages that this meat provides for human health.

This circle of interest allowed visits to prominent breeders and productive structures such as the Farm "La Lechuza", aimed at promoting pastures and plants that serve as animal food to get to know one of the local spaces that contributes to developing capacities for animal husbandry.

Among the most outstanding visible results it was possible to incorporate several students to rabbit breeding and some teachers, in addition to learning about the experience of experienced breeders living in the community. The work was presented at local events, which favored the socialization of what was learned and the dissemination of the experience.

The links between the Popular Council (Plazoleta - Las Minas) and the school are also highlighted, which allowed a group of artisans, teachers and students to exhibit at the center their craft exhibitions (fabrics and embroidery), which allowed the Students, teachers and the community learn about artisan traditions and develop indigenous aesthetic values.

Another of the experiences was related to visits made to production centers in the territory, including the Municipal Garden of ornamental plants.

In this activity, the most used and demanded ornamental plants in the municipality and their economic value were exemplified, this allowed to increase the relations between the school and the center, turning it into a study and exchange area. A complementary program of plant biological diversity was introduced, specifically invasive exotic plants and their impact on the municipality.

Due to the prominent role it plays in the project, it is valid to mention the technical and social project linked to the Zaza river basin, in which the members carry out activities based on environmental education in the context of the basin, in the space of its birth and join the study and work to solve the problems facing this local space. The students are related to the

problems, they know the natural features and values, as well as the modifications that human activity has produced in the basin.



Table 1: Environmental Education Project: "Source of the Zaza River"

During the tours, production centers are visited and related to their practices and effects on the river, they prepare presentations and collections that summarize their experiences and plan actions to achieve a more favorable awareness among people of the need to care for the basin.

Broadly speaking, these are some of the examples of the actions carried out in the project to promote sustainable local development based on environmental education.

Conclusions

Local development is a necessity, for this, the mentality of management teams, professionals and society in general must be transformed and schools must assume responsibilities with sustainable local development, taking advantage of the curriculum to design educational actions for its actors through environmental education projects.

The basic secondary school curriculum offers possibilities to carry out actions that, from the complementary activities: circles of interest, student research groups, technical and social projects or others, favor the connection to institutions to strengthen environmental education in the territory from the perspective local development. The school must incorporate the fundamental lines of local development in its educational project and from there favor the insertion of the educational community in actions that contribute to the knowledge, exchange and transformation of local reality.

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