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ENVIRONMENTAL PERCEPTIONS IN CONTINUING TRAINING. TEACHING PRACTICE AND ENVIRONMENTAL EDUCATION IN THE SCHOOL CURRICULUM

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Abstract: This work refers to environmental education revealed in the continuous training strategy aimed at 51 teachers and directors of Preschool and Primary Education who work in public schools in the metropolitan area of Monterrey, Nuevo León, Mexico. The study focuses on the identification of perceptions of the environment, its problems and relevant aspects for its protection carried out by the participants through environmental education; Likewise, their school practices and their potential curricular integration manifested in the course are analyzed *Environmental Education for Sustainability* taught online.

Through the phenomenological methodology that seeks to understand the way in which subjects perceive reality and the way in which they act to influence the change of a position through reflection. For this reason, a questionnaire was designed to assess how they perceive the environment, to distinguish the environments in which they seek information, the importance and strategies to care for the environment, in the same way as for its potential applicability to the school curriculum; a content analysis of the products generated by the participants, whose opinions allowed the approach to the attitudes that teachers promote in their profession and visualize an approximation to the viable actions to be implemented in the school program according to the role they play.

The results indicated that the teacher training initiative deployed in environmental education is a space to assess its importance, challenges and relevance that is potentiated in the Basic Education Curriculum, as well as the role of perception in the knowledge process. and their possible specific contributions that empower and strengthen policy actors and professionalize their role, so this work represents a basic input for future educational research.

Keywords: Continuous training, teaching practice, environmental education, attitudes, basic education curriculum.

INTRODUCTION

In order to face the national and global challenges from the educational system, teachers must possess diverse competences according to the contexts in which they operate, which implies modifying their ways of teaching. A need to cover is to generate viable actions to address the difficulties presented in their professional practice and engender creative processes that promote viable and relevant pedagogical strategies.

Because the evolution of knowledge has generated new needs, the teaching update stands out, which today has the responsibility of evolving to create innovative strategies that require timely attention to the operation of any educational reform, from its design; but it is of little use to make substantial changes in the educational discourse, if it continues with a curriculum designed without the involvement of those who operate it; with unfeasible curricular programs involved by a school organization that is outdated to the requirements of the current student population, to the imposition of rigid school schedules and/or because they are far from the learning interests of the students.

Faced with the environmental crisis, environmental education is presented as an appropriate means to contribute to the achievement of the objectives indicated in the 2030 Agenda and that, in conjunction with all the actors that participate in the teaching and learning processes of basic education, alternatives are generated. sustainable.

In this vein, it is clarified that the online delivery of the course *Environmental Education for Sustainability. The path to a humanistic education* whose purpose was the design of innovative educational proposals

that strengthen the relationship between the immediate environment and the global environment through sustainable school practices, the study arises to identify the environmental perceptions and attitudes of the participants, school practices and their incidence of education environment in the basic education school curriculum.

CONTINUOUS TRAINING

In general, global environmental problems affect all species, cause damage to ecosystems and just to mention one example, the year 2020 has been the warmest year on record (UNESCO, 2021a). The environmental degradation that is experienced, demands timely measures to prevent its extension, with individual actions and actions of each community that respect and promote environmental values on a daily basis out of conviction, which does not occur by spontaneous generation, it requires environmental training in the task teacher that favors effective school management.

Even though at the international level, various organizations and specialists have promoted meetings and publications related to teacher professional development and its relationship with the improvement of education, the need to implement similar programs, as one of the strategies to improve the quality of learning, has been with little educational environmental preparation. In this vein, mention is made of the preparation of an online survey for the study of some 1,600 teachers and heads of education, in which a third of the respondents indicated that issues related to the environment were not part of initial teacher training. (UNESCO, 2021b).

Through the historical evolution, the teaching function has become more complex; The new social and educational demands require inter- institutional processes to interact with experts, as well as promoting intersectoral studies that favor the linking

of specialists and practical experiences. To date, in the field of continuous training, the *training*, the update and *professional development*. Although it was not always so; For decades, the offer in the locality has been through short courses - taught in many cases by agents external to the educational process who are unaware of school processes- , with themes decontextualized from the immediate context, limited in duration, unattractive and adequate didactic treatment.

It is necessary to strengthen specialized services for the implementation of critical curricula, open and framed in teaching practice, transforming reality. For this reason, it is necessary to have public policies that are consistent with the normative, operational and daily discourses, which include the recognition of pedagogical practices, as well as the knowledge, identity and experiences of teachers, the latter accompanied by a clarification of their knowledge and experiences, particularly of the environmental dimension and its approach to apply the criteria of justice, sustainability and participation to the educational process. This will allow studying an approach of the practical results to advance - as in this case- in the reflection on the possibilities of environmental education as a tool to enrich basic education school practices.

ENVIRONMENTAL EDUCATION IN THE SCHOOL CURRICULUM OF BASIC EDUCATION

The recognition of Environmental Education as a management instrument and, at the same time, a member of a global and permanent education, constitutes a core premise today if environmental protection and sustainable development are to be achieved.

Since the 1970s, when international and national authorities have called for the participation of all sectors of the population,

especially education, to promote the inclusion of environmental education in school programs, it has not been enough.

According to UNESCO (2021b), "*Learn for our planet*", presents the analysis of the curriculum of approximately 50 countries from various regions of the world, in which it is stated that more than half do not refer to climate change, while 19% talk about biodiversity; In addition, it highlights the lack of attention to socio- emotional skills and capacities directed towards action, to guide students in the acquisition and strengthening of knowledge, skills, values and the initiative to act in favor of the planet.

In Mexico, the Ministry of Public Education (SEP), since the last decade of the last century, introduced environmental content in the Basic Education Study Plans³, and in teacher training programs. Its inclusion in the Educational Reforms in Preschool Education, 2004; Primary Education, 2009; Secondary Education, 2006; Basic education, 2011; They have covered various environmental issues in the curriculum, in the generation of educational materials and in teaching strategies.

The plans and programs of the last three reforms have been very ambitious and in their curricular approach, they support their integration, this will not work if it is not accompanied by an adequate teaching environmental strategy that to date is precarious. In the voice of some specialists such as González (2000), school practice has been with greater difficulties in addressing environmental content, with brief promotion of conceptual, attitudinal and procedural knowledge that favors reflection on themselves and their environment.

AN APPROACH TO ENVIRONMENTAL PERCEPTIONS AND ATTITUDES

It is a priority to strengthen educational actions that contribute to the integral formation of the person, (Gomera, 2008), through teaching that leads to environmental awareness, implies working on their beliefs, perceptions, knowledge and attitudes. In this sense, it is cited that beliefs are subjective knowledge, little elaborated, generated by each individual and constitute a determining factor for the creation of their personal judgments and opinions, manifested in attitudes or predispositions of the behavior that teachers offer in their teaching. (Ocaña, Pérez and Quijano, 2013).

From this perspective, the study focused on an approach to the four dimensions of environmental awareness (Gomera, 2008):

- Cognitive: degree of information and knowledge on issues related to the environment (ideas).
- Affective: perception of the environment; beliefs and feelings in environmental matters (emotions).
- Conative: willingness to adopt pro-environmental criteria in behavior, expressing interest or predisposition to participate in activities and contribute improvements (attitudes).
- Active: carrying out environmentally responsible practices and behaviors, both individually and collectively, even in compromising or pressure situations (behaviors).

In this context, it was important to distinguish between teachers, their opinions, regarding what they do in their daily practices; from the knowledge of what is wanted - values and interests- , what can be - capabilities- and what must be done - responsibilities- , for which its particular

problem inserted in a global one (family, community, region, country), considered as a result of the relationships established between the dynamics of the components of society and nature, and closely related to the possible transformation of the environment in school practices and the potential environmental education in the curriculum. scholastic.

Therefore, it was pertinent to study what will be the perceptions of environmental education of teachers and where they are informed of the current environmental situation? What will be the environmental education actions that teachers practice, and what will be the environmental education contents that could be included in the school curriculum to strengthen it?

PERCEPTIONS AND ENVIRONMENTAL ATTITUDES IN CONTINUOUS TRAINING

To identify the environmental perceptions and attitudes that the participants reflected, the qualitative paradigm was explored aimed at understanding the problem from the perception of the subjects, the beliefs and motivations that underlie their actions. In this framework, the inquiry about the little-studied subject was made by recording the circumstances of the context in which it occurred (Pérez- Serrano, 2007).

For data collection, the questionnaire and content analysis were used. Regarding the first, two instruments were applied: one prior to the course, semi- structured by 30 items with structured or open response questions to identify their perceptions and another, used at the end, of 17 questions limited to the environmental education actions that they carry out and their school practices, as well as their possible inclusion in the school curriculum for their strengthening. In both, the Likert- type scale format from “strongly agree” to “strongly disagree” with multiple

choice was also used (Ocaña, Pérez, & Quijano, 2013).

Information obtained in textual or stated narrative form from:

questionnaire, transcribed notes from the participants via email, opinions collected in the discussion forums and materials generated in the activities from which meanings and deep details of the respondents were extracted; Although the communication via WhatsApp was also used, this will not be addressed because it was to communicate personal situations of notices in its entirety.

According to (Krippendorff, 1990), the procedure consisted in the identification and definition of the units of analysis guided by the selected data, the circumstantial and temporary situation located in the scenario referred to the months in which the design and development of the project was generated. program (January to May 2021) and the social context.

The significant findings - categorized into three, in this document they present a part of two- , ideas are appreciated about the conceptions of the environment, its problems and of these, those that are a priority to attend; degree of information and knowledge that identify the current environmental situation; the school practices they carry out and their potential curricular transversality, are framed in the structure of Gomera (2008) and González (2000), to seek an approach to the declared environmental perceptions.

ENVIRONMENTAL PERCEPTIONS IN TEACHING

In order to have an approximation to environmental awareness, an approach was made to the environmental perceptions and knowledge expressed by the group of 47 women and 4 men, about the conceptions of the environment, its problems and those that are a priority to attend to, the information

and knowledge that identify about the environmental situation - among others - , for which reason some aspects are cited.

A good part of the participants relate resources such as water and forests as elements of the environment: forests, mountains, countryside, 34 (63%) stated that they were *in total agreement*; although 4 (7%) answered *neither agree nor disagree*. The sea, the rivers and the beaches, 37 (69%) confirmed that they were *in total agreement*; although 5 (9%) answered *neither agree nor disagree*.

In this vein, the necessary attitude of appreciation and respect (González, 2000) is valuable; This concept alludes to the conservation of the natural physical environment, which shows the importance of being in contact with that nature to enjoy and admire, since it can renew the spirit, thereby affecting the affective dimension (Gomera, 2008).

In the development of the course, although in the activities they identified other elements of the global approach to the environment, their perceptions hardly changed as reflected in the following expression:

In order for a boy or girl to have respect for the environment, they have to go regularly to the countryside, the mountains, the beach, a campsite, natural parks... This way, the little ones will acquire respect and awareness for nature and will have the need to take care of the environment, not pollute it and keep it clean. It is easier to worry about something when it is known first- hand and has been enjoyed (L.B. 2nd. Forum).

About the perceptions about concern for the environment, 35% expressed that they *worries a lot* environmental problems that affect the world, however, only 4% located them far from where they live; Regarding the elements that are part of the environment, most of them recognized that they are water, wildlife or the air that is breathed; but not so, the social and economic dimensions of the

environment.

These answers given at the beginning of the program were not consistent with the environmental approaches/themes expressed in the activities, the pedagogical actions project a change, for which it is estimated that, in this part of their perceptions, there was evolution, and above all, In the didactic plans generated in the course, all the participants always expressed interest or predisposition to participate in activities and contribute improvements, with which they are involved in a conative dimension (Gomera, 2008).

Regarding their problems, 72% of the educators considered the theme of the city and beautiful neighborhoods, gardens and monuments to admire, as well as wide and paved streets less urgent, while 64% of primary students considered them more urgent. The same thing happened when mentioning the problem of population growth, the need for more food and better healthcare and health, those in preschool (66%) rated it less urgent, while those in primary school (72%) rated it as more urgent. ; these expressions at the beginning of the course, all agreed on this approach when they were asked about the political and social environment, only 15 (28%) responded *in agreement*, and 10 (19%) *totally agreed*, with which the the need to promote the acquisition of skills to solve problems of daily life, which goes beyond the pedagogical approach - among others - , which includes the incorporation of sociocultural, technological, and historical elements in their curricular practice.

Regarding the degree of information and knowledge about the current environmental situation, a part of the teachers testified that they felt little informed: 17 educators (59%) assured little and 7 (24%) affirmed something; only 5 (17%) asserted a lot, in addition to the fact that there was not a participant who said *much* or *nothing*. Similarly, in primary school

teachers, 15 (60%) said little; 10 (40%) a lot, and no one said anything, something and a lot.

It is valued that this situation is caused by the fact that environmental education and the problems have evolved, being increasingly complex; given that teachers have had few opportunities for continuous training contextualized for their professional practice and that in this subject of study, the opportunity to promote sustainable processes of teacher environmental training is presented.

This way, the majority of the participants affirmed that they found out something about the environmental situation, through TV (46%) and Little on radio (26%), Internet (39%) and/or with the neighbors-community (39 %), so the need to promote teacher environmental training processes is appreciated, since currently, the contents related to this subject, obtained in the media, mostly address environmental problems, without addressing their causes; coupled with the fact that the few programs that promote culture have precarious dissemination.

TEACHING PRACTICES AND ENVIRONMENTAL EDUCATION

Regarding the affective dimension of environmental awareness (Ocaña, Pérez and Quijano, 2013), the environmental beliefs and feelings of the participants were located in pedagogical actions; the statements in the forums, didactic situations and planning, captured messages or ideas that represent their knowledge; This recognition gave them confidence to understand that the ethical- environmental values exercised in their experience are significant; In addition, it favored their actions on environmental situations that surround them.

According to Gomera (2008), the participants expressed, prior to the course, only the green dimension in the actions, however,

this position was changing when focusing on the pedagogical strategies generated wrapped in aspects related to philosophical, ethical and humanist elements, as it was left. expressed in the following expression:

I consider it very important to promote environmental education in the classroom and not only as care for nature and resources, but also in terms of values, where all students have respect as a basis in their lives, respect for themselves, their classmates, their belongings and those of others, respect for human life, animal life, respect for our planet (C.D. Content in the didactic situation design)

It was appreciated that those who work in preschool, quickly articulated the environmental education activities contemplated in the study plans and programs with the extracurricular strategies (mainly because at this educational level, they use the project method for the development of their curricular program) as indicated shows below:

Children are in a very favorable stage of development to learn not only the basic subjects, but also to observe, analyze, explore and understand the world from a more scientific perspective, since they are in stages of development whose interests start from the immediate reality of society and the world that surrounds them (K.G. 2nd. Forum).

The participants who work in primary schools were more critical when they reflected on the educational materials:

I believe that within the textbooks there is still a lack of integrating information on environmental education. If the teacher is in charge of integrating this information into his professional practice and uses it acting together with the students; first to learn about the subject, then to become aware of what is taught and later put it into practice, first in the classroom and in their school context, the children will be the transmitters of that information at home and a gradual transformation of the society (M.L. Design

of a didactic planning).

The conceptions of environmental education whose conative dimension (Gomera, 2008) address changing approaches over time, represented the theme that cost them the most effort; however, in most cases, well understood; If at the beginning, they expressed fragmented conceptions with a predominance of green practices, in their activities they managed to apply key elements for their inclusion as a transversal axis:

As teachers, we must commit ourselves to improve our practice not only in basic contents such as Spanish and mathematics, but also to give the importance that topics related to nature deserve, since students need to understand that they are part of an ecosystem, in which which, the actions we carry out every day are capable of harming or benefiting each one of us and our environment. It is not necessary to teach these types of topics from a single subject, but in a transversal way, in which we take advantage of some situations in which topics such as sustainability can be related, ... (K.G. 2nd. Forum).

In addition, most of the participants with experience of more than 20 years in the educational level where they carry out their professional practice, agreed that the load of the programs present in each school grade, the limited hours, as well as the forms of organization and administration school, are part of the limitation/hindering of meaningful academic activities. Likewise, they recognized that the conceptions related to environmental education imply greater preparation in the social and/or environmental fields.

These are some significant findings in a real educational environment, considering that the school programs they attended when they were initial teacher training students date back 25 years, a time when the environmental dimension was restricted; the reduced environmental conceptions

in their study plans, and that, to date, the continuing education programs of the town, environmental education is not a priority to attend.

The preschool and primary school participants agreed when reflecting on the potential of environmental education as a guiding element for the construction of an innovative teaching model; They recognized its relevance in the planning and presentation of academic activities, as well as the institutional difficulties for its transversal approach in the development of the program. The synergy between teachers and managers contributed to creating an environment to interact, by communicating their ideas or beliefs in some activities carried out.

In order to promote environmental education projects in Basic Education in an integral way, it is important to distinguish that its guiding principles correspond to the approaches enunciated in most of the educational reforms (humanist, holistic - among others-), it is a priority to understand those who execute the programs schoolchildren; Starting first from the profile of the teachers, identify how they conceive the environment and environmental education, their problems and find out what are the priority issues to address.

CONCLUSION

Currently, with the support of digital tools and the school- home modality, teaching performance acquires greater pedagogical, didactic and communication skills responsibilities, so for an adequate and sustainable school program, a priority is represented by continuous training, of in such a way that it strengthens the professional development of those who operate the educational system.

Currently, it is certain that curricular environmental education is possible in the

Basic Education Curriculum, if the school programs are accompanied - among others- by relevant environmental teacher training and monitoring and evaluation strategies; To date, the few programs that basic education teachers have access to have ambitious objectives, but they could hardly be applied in their daily lives.

However, the multiple factors that affect the official positions to provide an integrated vision of environmental education in *updating* and *professional development*, requires continuous advice in the programs; an interdisciplinary team whose profile represents a personal, institutional and community commitment that generates the impulse of appropriate educational policies, in addition to flexible academic spaces in school practice, in which the recognition and school management

of local teaching experiences that deserve to be recovered are promoted because they are viable and sustainable for the training of children and young people in the immediate environment, although not generalizable to the entire population.

Faced with the challenge of contributing to improving educational quality, it would be important to continue with the analysis of teachers' environmental perceptions in future investigations; disseminate the impact of continuous training processes, contextualized to the needs and interests of the participants, where their accessible contents are distinguished, the teaching knowledge is valued, and whose scope represents a pertinent tool from the planning and school management of educational projects for sustainable development.

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