

Arborization in public areas of the city of Timbiras, Maranhão, Brazilⁱ

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Abstract: a healthy environment is everyone's wish, but few set it as a goal in their lives. The arborization would be the first step to be done because besides bringing improvements in the quality of life, integrates, and involves the population in the awareness of environmental preservation. A survey was conducted in the city of Timbiras, Maranhão, to analyze the perception of the population regarding the arborization, and care of public squares in the city. The methodology addressed the application of semi-structured questionnaires with 100 students from public schools and the photographic record of Timbiras' squares. The questionnaire addressed questions related to the theme of Environmental Education, to list which are the biggest problems faced by the population when addressing the environment. It was found that some students could not inform basic concepts of what the environment would be, especially students in the 9th grade of elementary school. High school students have, in contrast, been able to conceptualize, but the 1st year of high school had 40% negative answers. This reveals that the city of Timbiras has difficulties in addressing the theme of Environmental Education, being more studied in high school, thus hindering a critical environmental construction in the population.

Keywords: Environmental Education. Urban space. Infrastructure. Arborization.

Resumo: um ambiente saudável é desejo de todos, porém, poucos são os que traçam isso como meta em sua vida. A arborização seria o primeiro passo a se fazer, pois além trazer melhorias na qualidade de vida, integra e envolve a população na conscientização da preservação ambiental. Foi desenvolvida uma pesquisa no município de Timbiras, Maranhão, com o objetivo de analisar a percepção da população a respeito da arborização e cuidado das praças públicas na cidade. A metodologia abordou a aplicação de questionários semiestruturados com 100 alunos da rede pública, e o registro fotográfico das praças de Timbiras. O questionário abordou perguntas relacionadas ao tema Educação Ambiental, com a finalidade de elencar quais os maiores problemas enfrentados pela população quando se aborda o assunto meio ambiente. Constatou-se que alguns alunos não souberam informar conceitos básicos do que seria meio ambiente, principalmente os alunos do 9º ano do ensino fundamental. Os alunos do ensino médio já conseguiram conceituar, mas o 1º ano do ensino médio teve 40% de respostas negativas. Isso revela que o município de Timbiras tem dificuldades em abordar a temática Educação Ambiental, sendo mais estudada no ensino médio, dificultando assim uma construção crítica ambiental na população.

Palavras-chave: Educação Ambiental. Espaço Urbano. Infraestrutura. Arborização.

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Introduction

Currently, the majority of the world's population lives in cities, having access to public services that are fundamental to people's quality of life. The evaluability of quality services is essential and becomes a strategic, and developmental differential. However, the implantation, and management of the arborization of cities, besides a fundamental public service, aim to mitigate the environmental impacts caused by the artificial conditions of the urban environment, as well as the ecological, historical, sociocultural, aesthetic, and landscape aspects, which promote comfort or discomfort to people. And, therefore, technically qualified and skilled professionals are required to perform (CEMIG, 2011).

Public spaces can be conceptualized as spaces composed of elements necessary for the well-being of the population, connecting and stimulating places and people.

For the transformation of the reality of a place it is necessary to know deeply its origin, its needs, interests and difficulties, in order to define instruments for the educational action. For this, the Environmental Education is a fundamental tool in the attainment of objectives and goals, aiming the balance of the biodiversity present in the urban environment.

Urban arborization is an essential activity for improving the population's quality of life, and is one of the most important elements of the urban environment (SILVA et al. 2012). Urban arborization serves to protect the soils from erosion according to Martelli (2013), as well as providing resources for pollination and ornamentation, according to (AGOSTINI AND SAZIMA, 2003).

According to Gomes (2005), public squares have always been part of the history of cities, and keep facts and events of public and private life. They are characterized as free and public spaces of great importance for the sociability of people from old urban centers and inhabitants of the current cities. And it is considered a category among the many urban free spaces like parks, green áreas, and recreation areas.

The phenomenon of urbanization is crescent and inordinate, causing, in many cases, unhealthy conditions of basic sanitation, arborization and thermal discomfort. The

perception of the environment is a set of relations and interactions of the individual, society and environment, based on the reality of each being, each culture and between their relationships.

The green areas and gardens, since ancient times, have become places of walks, and places to expose luxury and rest. And today, due to the problems generated by modern cities, these areas have become a requirement for environmental control in the face of degradation, as well as for urban ornamentation, and as a hygienic and recreational need (LIMA and AMORIN, 2006).

The arborization is fundamental in the composition of green in urban areas and promotes an important role in sustaining the environmental quality of cities, contributing significantly to microclimate conditions. The importance of arborization in cities is based on potential because of the lack of green areas, given that in many neighborhoods, the space of land reserved for the establishment of trees is limited to sidewalks and places intended for the establishment of squares and gardens are almost nonexistent (SCHUCH, 2006).

This project was designed to analyze arborization and care of public squares in the city of Timbiras, through environmental education with residents of the city. Moreover, the research sought to evaluate the participation of students from public schools in the city, encouraging them to observe and critically analyze the urban environment.

Methods

Methodologically, the research was considered of qualitative and quantitative nature, seeking technical information to solve concrete problems of daily life of the population. The work was based on a bibliographic research from database consultation. For this, was searched keywords such as “environmental education”, “urban environment”, “public squares” and “environmental perception”. The research proposal is of interdisciplinary character whose focus is the Environmental Education in public squares.

This project had as participants 100 students from two public educational institutions. At first, had the idea that the participants are the residents who live near the squares, but the rate of residents who live near the squares is low, so there had to be a

change in the public that would voluntarily participate in the project by answering a questionnaire with 12 questions (closed and opened).

In order to accomplish the project objectives, field research, interviews, and data collection were carried out with the application of semi-structured questionnaires that approached themes related to the environment in public squares of the city. In the questionnaires were listed issues such as preservation and conservation of squares, destination, and handling of waste, treatment, and care of sewage, among others.

To support the project methodology, bibliographic data were consulted with the Timbiras' Environment Secretariat and the authors that corroborate the theme of environmental preservation in urban areas.

Results and Discussion

Given some observations in the city of Timbiras, it is necessary an analysis and a detailed project of revitalization in the urban space, creating an ambient that integrates the environment with the new sociocultural and functional expectations, so that a new landscaping space with a high degree of legitimacy emerge, which would, undoubtedly, improve the quality of life of the population.

In conversation with the secretary of the environment of Timbiras-MA, one of the main environmental impacts is the lack of environmental sensitivity that the population of the city presents, because according to the secretary, when the individual throws garbage on the streets, destroys the public squares and pollutes rivers, who suffers from all this is the general population. Another observation is that the little arborization in the public squares that the city of Timbiras has, harms the conviviality and the relationship between man and nature.

For this analysis, the main public squares were numbered and observed, as well as the main environmental problems existing in them, so that their problems can be identified and later point out solutions to such existence.

The interviewed participants live in the city for an average of 12 years and with an average daily visit to the square of 47%, with these data it is seen that the participants have a good view of the square, and what happened over more than one decade.

Non-formal places of education are spaces beyond school, serving as support for the teaching and learning process, valuing education in different contexts and realities.

Corroborating with Jacobucci (2008), non-formal spaces describe places where it is possible to develop educational activities.

Thus, it is necessary to work on Environmental Education in non-formal environments such as public squares, because by doing so it is possible to perceive the development of habits, behaviors, ways of thinking and expressing themselves, according to the values that are built in these spaces. For Guimarães and Vasconcelos (2006), non-formal education spaces have some characteristics that make them fundamental for the development of environmental education.

It can be seen that the Environmental Education of the city is unsatisfactory, since 40% of the answers about what was understood by the environment had to be discarded, some students leaving the answer blank and others writing that they knew nothing.

Environmental education must be present in all educational processes, whether formal or non-formal. According to the National Policy of Environmental Education, Law No. 9.795 / 99, environmental education is understood as processes through which social values, knowledge, skills, attitudes and competences are built by individuals and the whole community, oriented towards the conservation of the environment (BRAZIL, 2005).

The results were divided into three groups: the answers that were based on ecology, then the answers focused on the social área, and finally those who could not answer (those who had no idea what the environment might be). According to Carvalho (2002, p. 31), thinking about environmental education consists in the rescue of the historical subject, based on an ethics of respect and integration towards the environment.

The biggest problem in public squares is the lack of lighting followed by garbage accumulation. Only one of the squares has a reasonable illumination which is the church square (matrix) located in the center of the city, where the illumination comes from the church itself. Most squares have street vendors, much of the waste is generated by these vendors, such as paper, plastic bags and disposable cups, being left on their own. This shows the absence of dumpsters to collect these wastes. The other problems pointed out were the depredated structures (benches, plates, dumpsters), the absence of trees and the absence of toys for leisure.

Even though the population has a futuristic perspective of the squares, with around 40% expecting the square to be better in the future, plus 30% believe that in the future the

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squares of the city will be quite different, which shows that even with some rulers not giving so much importance to the city squares there is still hope that there will be a change. However, there is a 15% share that believes that there will actually be a change but for the worse, this is because the policing in the squares is almost zero, and with that occurs drug sales, vandalism, and theft.

It's needed a contribution from the population so that managers can work and change this aspect of the square, about 68% of participants agree that society in general is responsible for the care of the square, more clearly with the help of the rulers in its administration. Already the school is seen by respondents without such an important role in this work with the squares.

Another observation revealed in the questionnaires shows that 68% of respondents state that society is primarily responsible for caring for public squares, along with public management (mayor, secretaries).

According to Bahia and Figueiredo (2013), public policies should act as a field of knowledge, guiding the government in performing actions, to propose coherent changes in the midst of certain actions.

Among the changes that were most raised are the number of trees in the squares, in which more than half of the questionnaires with valid answers showed that the squares need more trees. Arborization is a suitable and efficient method for ensuring environmental improvements.

As stated by Bezerra and Chaves (2014), urban revitalization is synonymous of intervention, in order to allow a given space a new efficiency, bringing a new meaning and aiming at improving the surroundings and their space.

About half of the participants agreed that issues related to education, science, math and environment cannot be addressed in the public square. The justification for this was that the city squares has no structure, and has garbage to work on this theme. Thus, 60% of participants said they need changes in the squares, while the number of people who evaluated the current conditions said they were in reasonable situations.

In contrast, 52% of respondents said that it is possible to bring these themes to work in a square, but the Timbiras' squares do not really have one of the best structures for making events, most squares have narrow areas and are always full of merchants, thus taking up even more space.

One of the questions asked in the questionnaire was whether the participant had already done something to change the situation in the square. A total of 57% of respondents said no, because they couldn't do anything alone, needing help from the government.

School is the social place of education. This is a correct idea, but not entirely. The education we live in school, as students, as teachers, as the two "things" at the same time, is an important fraction of our learning, but not unique. School education is a moment of a multiple process, of various faces and lived between different moments, which we usually call socialization (BRANDÃO, 2005, p.25).

These spaces are intended to educate by example and to radiate their influence to the communities in which they are located. The transition to sustainability in schools is promoted from three interrelated dimensions: physical space, management and curriculum (BRASIL, 2013).

Conclusion

Given the results obtained, it can be observed that the research was satisfactory concerning the acceptance by the public school students of the city of Timbiras, Maranhão. In urbanized environments the environmental impacts are more frequent and intensified, becoming of greater attention by the public management and the population of the city. It was observed that in Timbiras the vegetation cover allows greater water drainage, soil erosion protection, shading improvements, less heat and air quality improvements.

Environmental awareness was raised at the level of Environmental Education in public squares, in which irregularities were found regarding infrastructure, waste accumulation, lack of sewage treatment, absence, or insufficiency in the quantity of trees and leisure areas. In order to change the quality of life of the population in relation to the environment, in which they live, it is necessary to encourage the government and supervise the residents themselves regarding the depredations and environmental degradations that may be present.

Green areas in urban spaces are considered relevant for maintaining the population's quality of life and a better environmental balance. These areas, such as public

squares, provide numerous benefits and help mitigate the consequences of environmental impacts caused by the urbanization phenomenon.

Improvement actions need to be spread to the spaces of common areas, where the population can enjoy the comfort of the urban environment. For this, the schools should be encouraged to environmental actions, in a formally and informally way, raising actions aiming the maintenance of public spaces. The manifestation of social movements in local urban spaces should enable the involvement of the community and environmental managers in the construction and elaboration of public policies aimed at improving the quality of the environment.

Finally, it is stated that the environmental education in public squares in the city of Timbiras should effectively contribute to changes in attitudes and commitments of people who use these non-formal spaces. Moreover, it is possible to realize that environmental education in schools and in public squares has the objective of motivating the individual and collective search of the being, through ecologically correct attitudes and behaviors.

Notes

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