



**ORIGINAL RESEARCH PAPER**

**Education**

**USE OF INFORMAL AREAS FOR THE TEACHING OF SCIENCES IN THE SCHOOLS OF MANAUS, BRAZIL**

**KEY WORDS:** Teaching, Learning, Sciences, Education, Informal Space

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**ABSTRACT**

The use of non-formal spaces contributes significantly to the teaching-learning process. With this, many studies have been conducted on the use of these spaces as a contribution to science education. This work is the result of an investigation applied to researchers working in the area of study of non-formal spaces, with the objective of identifying what are the challenges in their conception, besides motivating a reflection and collaborating with new proposals that may stimulate the teacher to effectively use these spaces. To obtain the results, two researchers from the area of non-formal spaces were interviewed. This will help students to visualize the concepts studied in the classroom, leading them to a participatory and social posture and contributing to their learning and citizen posture.

**INTRODUCTION**

The teaching of science in non-formal spaces or extra-school teaching spaces has long been used by several schools, both public and private schools in the city of Manaus with the aim of contributing to students' learning.

For Jacobucci (apud SHIMADA; FACHIN-TERÁN, 2014, p.2) "Non-formal space is all that space outside the classroom where an educational practice can take place. Examples of such spaces are museums, gardens, zoos, parks, squares, woods, etc.". These spaces represent a valuable opportunity for students and teachers to jointly observe, experiment and understand phenomena only imaginable if addressed exclusively in the classroom. The approach to the natural environment is essential for a greater and more pleasant understanding of the contents learned in the classroom.

The use of non-formal spaces constitutes an extremely relevant strategy for teaching science, contributing to the pedagogical activities of the school and benefiting the students not only with the acquired knowledge, but also with the exercise of the citizenship practiced.

In a more recent study, Oliveira and Gastal (2009, p. 2) consider that the use of non-formal spaces for learning enables the diversification of the teaching methodology, which may favor learning by children, considering their age heterogeneity, cultural and formative.

This work aims to know the conceptions of researchers in science teaching about the status of the use of non-formal spaces as a contribution to the teaching of science in elementary school in the city of Manaus.

**METHODOLOGY**

To investigate the conceptions of these researchers regarding the use of non-formal spaces for science teaching, an interview was conducted with the following approach: What would be the challenges for using non-formal spaces as a contribution to science education? The interview was recorded in MP4 recorder and transcribed in full for content analysis, ie a numerical analysis of the frequency of challenges cited by each interviewee. In the research were interviewed 02 (two) researchers individually, whose identities remain confidential, hereinafter referred to only as Researcher 1 (P1) and Researcher 2 (P2). The research is descriptive with qualitative approach since the procedures for data collection will be bibliographic research and field survey, which interviewed whether the researcher personally and individually, clearly and objectively.

The technique of data analysis of the interview was qualitative content analysis (BARDIN, 2009), in which by reading the description, it is verified frequency of ideas, categorization,

interpretation and inference.

**RESULTS**

The Researcher (P1) presented four difficulties: The first one refers to the formation of the teacher, which normally does not allow him / her to perceive in these spaces the potentialities and learning possibilities that students may have in that environment, often this Education is compromised because the teacher works in different areas of his academic education. The second concerns the insecurity related to the responsibility burden on each student when he leaves school for these environments, this fear is due to possible accidents or other disorders for being outside the classroom space. The lack of institutional support is also one of the great difficulties for teachers to be absent from school with students, because they need to schedule the visit, request parental permission to leave the school space and support to have people who can, along with the teacher accompany the class on the field visit. And the lack of appreciation of science education, in which we realize that it is giving priority only to other subjects such as Portuguese language and mathematics.

Researcher (P2) describes other challenges such as the lack of prior planning by teachers to take their students to educational spaces outside the classroom, ie non-formal teaching spaces. He cites as a second challenge the lack of motivation of teachers, the fact that he wants to lead his students to experience experiences outside the classroom which will contribute a lot to their learning as a student and as citizens.

Different citations were observed in the conceptions formed by the interviewed researchers about the challenges for the use of non-formal spaces in science teaching. When analyzing each researcher's conception, it was observed that each one highlights one or more different challenges.

According to Researcher 1, the first difficulty refers to teacher training, which normally does not allow the teacher to have the possibility to perceive in these spaces the potentialities and learning possibilities that students may have in that environment, often this formation is compromised. due to the professor working in different areas of his academic formation (ROCHA; FACHÍN-TERÁN, 2010).

Another challenge is the fear on the part of teachers or the insecurity related to the responsibility burden on each student when he leaves the school for these environments, this fear is due to possible accidents or other disturbances because they are in a totally different environment from the classroom space. (CASCAIS; FACHÍN-TERÁN, 2015).

For this researcher, the lack of appreciation of science teaching is very great since, it is perceived that priority is

given and a huge appreciation only to other subjects such as Portuguese language and mathematics, not noting the importance of science and other subjects for training of the citizen (FACHIN-TERÁN; SANTOS, 2014).

Researcher 2 points to other challenges such as teachers' lack of prior planning to take their students to educational spaces outside the classroom, ie teachers are not usually planning to take their students to these non-formal teaching spaces. (ROCK; FACHIN-TERÁN, 2010).

The second and final challenge cited by this Researcher is the lack of motivation of some teachers. According to him, for the activity to be successful, it is necessary that he, the teacher wants to lead his students to experience experiences outside the classroom, which will greatly contribute to their learning as a student and as citizens (RAUSCH, 2012).

By comparing the interviews, it was possible to realize that each researcher has a different opinion in their point of view regarding the challenges regarding the use of non-formal spaces as their contribution to the teaching of science.

**CONCLUSIONS**

Education in Brazil has undergone numerous changes over the past decades and the use of non-formal spaces has increasingly strengthened with a strong ally to assist in changing students' behavior in today's social and environmental problems. For the activities performed in these spaces can be used as strategies to facilitate the learning of students who show much more interest when theory and practice come true.

By using the non-formal space in the teaching-learning process, the teacher uses strategies to attract the learner's interest to his classes and, thus, induces the student to start a process of scientific literacy. However, the process is not simple, it involves from educator training to the methodology used in this environment that should diversify from the classroom. To achieve these objectives, the first step is the planning of the activity because, in order for it to fulfill its role of assisting the teacher in the learning of students, it is necessary a prior organization of the activities to be performed and the proposed objectives.

The objective of the research was partially achieved, the initial intention was to interview at least 03 (three) researchers to obtain results. However, this was not possible due to the difficulties in conducting interviews since most of these people were involved with many academic works thus hindering personal meeting and individualized conversation. Even so, the work was done with two researchers and it became possible then to identify the challenges perceived by them. Besides, motivate for a reflection and collaborate with new proposals that will stimulate the teacher to use these spaces effectively.

Thus, it is important for education professionals to know the challenges (GONZAGA, 2011), in the design of researchers for the use of non-formal spaces as a contribution to the teaching of science so that, using this environment, they can explore with students. , all the space there available for the practice and its natural riches. Thus, it will be easier to plan your classes including educational activities in non-formal spaces and thus help the student to visualize the concepts studied in the classroom, leading to a participatory and social posture contributing to their learning and citizenship.

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