THE GLOCAL-AGIR PROJECT: A WAY TO CONNECT NATURE AND URBAN AREAS

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Abstract

The Glocal-act Project (Knowing the global environment to act locally: From learning in nature areas to urban intervention) is an educational project for pre-service teachers and children from Primary Education which, among other aspects, focused on the connection between the Campus of the Polytechnic Institute of Lisbon and the Monsanto Forest Park (MFP). Therefore, in the curricular unit of Didactics of Science, 31 students had the opportunity to visit the park and to create resources for primary children. We intended to understand the pre-service teachers' previous knowledge about the park, to check the MFP aspects that were taken into account in the design of the didactic resources and the students' evaluation of the task proposed. In order to accomplish these objectives a questionnaire was administrated, a documental analysis of the didactic resources was done and focus groups interviews were conducted. The results show that 32.3% of the students had never visited the MFP. Almost all resources highlight aspects from the vegetation that can be found in the area. The geological aspects and the relation between biodiversity and geodiversity were practically absent. The results reinforce the pertinence of the project outlined and justify the need to improve students' contact with nature areas.

Keywords: Pre-service teachers, Contact with nature, Monsanto Forest Park, Educational resources.

Resumen

El Proyecto Glocal-agir (conociendo el medioambiente global para actuar localmente: Del aprendizaje en espacios naturales a las intervenciones urbanas), es un proyecto

educativo para docentes en formación y escolares de Educación Primaria. Este Proyecto se centra en la conexión entre el campus del Instituto Politécnico de Lisboa y el Parque Forestal de Monsanto (PFM). Así, en la unidad curricular de Didáctica de las Ciencias Naturales, 31 estudiantes tuvieron la oportunidad de visitar el parque y crear recursos para niños de Primaria. Se indagó sobre el conocimiento previo de los maestros en formación sobre el parque, para identificar aspectos del PFM considerados en el diseño de los recursos didácticos y en la evaluación de las tareas propuestas por los estudiantes. Para cumplir estos objetivos, se administró un cuestionario, se realizó un análisis documental de los recursos didácticos, y se realizaron entrevistas de grupo focal. Los resultados muestran que un 32.3% de los estudiantes nunca había estado en el PFM. Casi todos los recursos destacaban aspectos de la vegetación del parque. Los aspectos geológicos y la relación entre biodiversidad y geodiversidad estaban prácticamente ausentes. Los resultados evidencian la pertinencia del proyecto, subrayando y justificando la necesidad de mejorar el contacto de los estudiantes con las áreas naturales.

Palabras clave: Docentes en formación, Contacto con la naturaleza, Parque Forestal de Monsanto, Recursos didácticos.

Introduction

The Glocal-agir Project (Knowing the global environment to act locally: From learning in nature areas to urban intervention) is an educational project for pre-service teachers and children from Primary Education. It aims to develop: a) field trips to nature areas; b) actions and activities that value biodiversity and geodiversity; c) the understanding of the ecosystem services and the relations of these spaces with urban areas. The project meets the principles set out in two different documents: the Sustainable Development goals set by the United Nations in 2015 and the National Strategy on Environmental Education 2020, coordinated by the Portuguese Environment Agency.

One of the intervention axes of the project is focused on the connection between the Campus of the Polytechnic Institute of Lisbon and the Monsanto Forest Park (MFP). Therefore, in the Didactics of Science curricular unit, 31 students had the opportunity to visit the park and to create resources for children to explore the MFP.

This study aims to assess the pre-service teachers' previous knowledge about the park, the aspects of the MFP that were taken into account in the design of the didactic resources and the students' evaluation of the task proposed.

Method

In order to accomplish the objectives of this study we used different methods, namely, questionnaires, document analysis and focus groups.

First, a questionnaire was administrated at the beginning of the course (prior to the visitation of the MFP) to understand the pre-service teachers' previous knowledge about the park in several dimensions (Table 1).

Table 1

Questions of the questionnaire.

Question	Type of question
1. What is the protection status of the Monsanto Forest Park? (Tick the correct option)	Closed (multiple choice)
2. Do you know the reason (s) that justified the creation of the Monsanto Forest Park in the 1930s?	Closed (multiple choice)
2.1 Indicate up to three (3) reasons justifying the creation of the Monsanto Forest Park in the 1930s	Open (for who answered yes in the previous question)
3. Do you know what relevant nature aspects can be found in the Park?	Closed (multiple choice)
3.1 Indicate up to three (3) relevant nature aspects that can be found in the Park.	Open (for who answered yes in the previous question)
4. Do you know what equipment, infrastructures or thematic spaces you can find in the Park?	Closed (multiple choice)
4.1 Indicate up to three (3) equipment, infrastructures or thematic spaces that can be found in the Park.	Open (for who answered yes in the previous question)
5. How many times have you visited Monsanto Forest Park?	Closed (multiple choice)
6. With what scope were these trips to Monsanto Forest Park?	Closed (multiple choice)

The questionnaire had three distinct parts, but only two were analyzed in the scope of this study. The first part aimed at characterizing the participants, namely their age, gender and the municipality of residence. In the last part, the questions sought to obtain information about the students' knowledge about the MFP An online version of the questionnaire was made available during one of the classes. No indication about the project objectives was given to students to avoid influencing their responses.

Results

Thirty one students answered the questionnaire (87.15% female and 12.9% male). The mean age was 23.4 years. The most mentioned area of residence was Lisbon (22.6%). However 16.1% of the students didn´t live in the metropolitan area of Lisbon/, which comprises eighteen different regions of the big area of Lisbon and Peninsula of Setubal.

Concerning the knowledge of the status of the MFP, the majority of the students (64.5%) mentioned that it is a Nature Park. The other alternatives received the following percentage: National Park, 19.4%; protected landscape, 3.2%; Nature Reserve, 3.2%; and I don't know, 9.7%. This result not only demonstrates the lack of knowledge of the legal framework of MFP, but also reveals the lack of knowledge associated with each of the aforementioned statutes, since the Peneda-Gerês is the only park classified as National Park. Equally relevant was the fact that 87.1% of the students stated that they didn't know the reasons that justified the creation of the MFP in the 1930s.

Also, 83.9% of the respondents said they didn't know the nature aspects of the MFP. Among the five students who said they knew the nature aspects, the biological aspects were the most mentioned. However, there were also references to geological and geographic aspects. Moreover, 61.3% were unaware of the equipment and infrastructures present in the MFP. The most well-known park's infrastructures were the recreational parks.

The results show that 32.3% of the students had never visited the MFP, and 29.0% visited the MFP between one to three times. The vast majority of the students (90.5%) said they had visited the park with family and friends. School visits, during higher education, was mentioned by 9.5% of the students. Still, 14.3% reported having visited the MFP within the scope of their work or in voluntary actions.

Eight different didactic resources were elaborated by the students: four proposed games to be done during or after the visit to MFP (bingo, geocaching, peddy paper and board game); two elaborated a field trip sheet; one was related with a problem based learning situation; and one proposed a game and a critical thinking activity. All the didactic resources highlight aspects from the vegetation. However, the geological aspects were practically absent as well as the relation between biodiversity and geodiversity.

Most of the students evaluated in a positive way the visit to the MFP. This positive evaluation was a consequence of learning at different levels. The most mentioned aspect is related to development of a new perspective of the MFP. In other words, students have come to view the MFP as a place of learning, not just of enjoyment: "sometimes we consider that space only as a diversion, as a space of leisure and not of learning"). Some students also focused on the fact that they learned aspects related to the history of the park ("I did not have the notion that it had been planted by people, I never thought about that, and now I see it is relatively easy to understand that it was a human project"). They also appreciated the suggestions made by the guide regarding practical activities that can be done with primary students ("I also remember that he said that with a pencil we could measure a tree"). Moreover, many students highlight the importance of learning about field trips, namely, how to organize them and how to take advantages of the full potential of these trips:

> I think that even more important than the visit itself, was having read about field trips, I had never read anything about it, and it alerted me to certain aspects that maybe I would never have thought of it . . . reading about filed trips was very useful, it helps us to realize that it is not just going out, it is going out with a purpose.

> Going to MFP was important … it helps us realize the potentialities of this site, how we can use it, it's not just a field trip we're doing, it was to try to appropriate a place as a resource, which is a rather different vision.

However, some students pointed out less positive aspects of the visit, in particular, related to the difficulty that one of the groups had in accompanying the explanations of the guide.

Discussion/Conclusions

First of all, the results of this study reinforce the pertinence of the project GLOCAL-act. Indeed, although the park is located near the campus, many students were unaware of the legal framework of MFP, as well as the nature aspects, equipment

and infrastructures that can be found in the park. Moreover, 32.3% of the students had never visited the MFP. In fact, Kellert (2005) states that the direct contact with nature in our society is declining, a trend that has to be changed.

All these aspects justify the need to improve students' contact with nature areas during teacher training. The visitation of the MFP and the elaboration of didactic resources for primary students, during the Didactics of Science curricular unit, seems to be an important strategy to improve a greater articulation between the Park and the Campus and also to improve pre-service teachers' knowledge regarding the importance of field trips.

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