
THE MICROPLASTICS JOURNEY: TEACHING TO THE YOUNGEST MINDS THE WONDERS OF PLASTIC AND THE ENVIRONMENTAL IMPACT OF MICROPLASTIC POLLUTION THROUGH A STORY FOR CHILDREN

Paolo Olini^{*†1} and Erika Iveth Cedillo-Gonzalez²

¹La Scienza per Gaia – Via Coraglia 1, 40026, Imola (BO), Italy

²Università degli Studi di Modena e Reggio Emilia – Via Vivarelli 10/1, 41125 Modena, Italy

Abstract

The word "plastic" is now so linked to marine deterioration that many Italian early childhoods take this word as a synonym for pollution. Children recognize that conventional plastic wastes (bags or bottles) damage marine ecosystems and affect the health of marine biota. However, most of them are unaware of the environmental damage caused by microplastics. Microplastic pollution causes global concern due to its negative consequences on the marine environment. Therefore, strategies for teaching children about microplastic pollution, its causes, and its consequences become critical to stopping this environmental issue.

To achieve such goal, a story for children entitled "Pelucco, the microplastic journey" was developed as an illustrated book. The book explains the marvels of plastic material and the impacts of inadequate plastic disposal, which is considered one of the leading causes of microplastic pollution. The main character, Pelucco (a polyester fiber), was used to explain the introduction of microplastics into the ocean, describing how microplastics can travel through pipes and rivers and reach the ocean. Other microplastics (not fibers) were also illustrated in the story. The environmental impacts of microplastic pollution were highlighted by the journey of Pelucco and his friends from Earth to the ocean. The book concludes with pieces of advice to decrease microplastic inputs into ocean.

The story has been tested with children from 3 to 6 years old (group = 115 children) and children from 6 to 11 years old (group = 42). Before telling the story, almost 94% of children did not know the contribution of plastic materials to humanity's well-being and considered plastic a synonym for pollution. Additionally, they were unaware of microplastic pollution. After hearing Pelucco's story, 100% of children recognized the marvels of plastic, described the generation of microplastics from plastic wastes, and suggested strategies to stop the ocean's microplastic pollution.

Keywords: microplastics, polyester, children story, marine microplastic pollution, fiber microplastic, book

^{*}Speaker

[†]Corresponding author: lascienzapergaia@gmail.com