

## *Code4Earth by Secretariat for Catholic Education*

This project has managed to engage over 100 students in the span of two years since it benefitted from the STEM Community Funding Scheme 2021. This is because, throughout the timeline allocated for the National STEM Community Fund's first edition, the beneficiaries managed to conduct two project cycles with different students within the same educational institution. Participating students were introduced to the science inquiry model through the use of Kitronik Environment classroom kits, Microbits and Fischer Technik Green Energy Experiment Box in conjunction with the students' Learn Pad. Prior to the implementation of such kits in the classroom, all educators involved were provided with professional training from Dr Klaus Conrad, Managing Director at Headstart Technology Limited.

In addition, as indicated through the learning toolkits procured by the STEM Community Fund awarded funds, the project's focal point is the Environment, as a system that can be harmed. As a result of their engagement and with this deepened understanding acquired through these distinct classroom lessons and the kits in mention, participating students developed related projects, all aimed to reflect this awareness.

The inquiry model steps followed included:

- Engaging students by exploring the current local environmental situation and in turn, tackling one of the Year 6 Science Curriculum Learning Objective 6.3.1 'Know that the environment is a system which can be harmed';
- moving the students to Explore by investigating the phenomena based on knowledge acquired through classroom lessons;
- getting the students to Explain and Elaborate these phenomena using the new knowledge – and by means of the Evaluate step the students could then proceed to link the cause and effects of the actions that humans are causing on Planet Earth; and
- brainstorming sessions for solutions to build models that could demonstrate how to create, improve or reduce the adverse effect of the problem the students would have chosen to tackle during their interaction with the kits.

At the end of each project cycle, there followed the distribution of a questionnaire to all participants involved, mainly students, educators and parents. The general response was very positive, especially amongst participating students. This can be substantiated by some of the students' reflections in their reflective journals. For instance, one student wrote,

“I felt great whilst carrying out these tasks. Through teamwork, I have learnt that you cannot always do things by yourself.”

Another student added,

“I felt happy, satisfied and immensely good to look at something complicated that I made.”

The educators involved in the project also had positive comments on the project, particularly since such a project enabled them to challenge their fears in transforming their pedagogical approaches to be more student-led despite restrictions on time and the stagnant curricula that make it hard for teachers to try new, innovative strategies in the classroom.

Due to these positive outcomes, the project Code4Earth project intends to continue widening its impact by engaging more students in similar initiatives.

