

PROMOTING MATHEMATICS' TEACHING THROUGH HANDS-ON SCIENCE EXPERIMENTS

Maria Cristina Costa¹ and António Domingos²

¹Instituto Politécnico de Tomar, UIED, Portugal;

²Faculdade de Ciências e Tecnologia, Universidade Nova de Lisboa, UIED, Portugal

Science education should be used to perform interdisciplinarity because it promotes learning of other curricula subjects (e.g. Abell & McDonald, 2006). Relating mathematics with science has been widely advocated by several authors, but it is not an easy goal to achieve (e.g. Baxter, Ruzicka, Beghetto, & Livelybrooks, 2014).

This study aims to contribute to research by presenting a case study a primary teacher, who participated in a collaborative Mathematics and Science Continuing Professional Development program, and developed mathematical tasks related to electrical circuits. With a qualitative methodology, data collection results from classroom observations and an individual portfolio presented by the teacher in the end of the program.

Josefina asked students to bring to the class old batteries. Students organized the batteries according to their sizes and models. Also, they used a multimeter to measure the potential difference in Volts of the batteries and of biological batteries (e.g. fruit). With the obtained measurements they worked organization and processing of data.

Zehetmeier, Andreitz, Erlacher and Rauch (2015) sustains that innovations should be appropriated by teachers and transformed into their own practice, to have real effects. We argue that this is what happened to Josefina who created and implemented mathematical tasks, promoting interdisciplinarity with science experiments. Findings of our research shows that it is possible to innovate teachers' mathematical tasks through a collaborative teachers' professional development context.

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References

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