

FROM WASTE TO WEALTH:  
A RECYCLING INITIATIVE TO IMPROVE TEACHER PRACTICE  
IN MATHEMATICS EDUCATION

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## ABSTRACT

From Waste to Wealth:

A Recycling Initiative to Improve Teacher Practice in Mathematics Education

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Mathematics is becoming increasingly important for the growth and development of every nation. This is so at a time when many Jamaicans express disquiet about students' achievement in mathematics and teachers argue that they do not have enough resources to teach it in ways that satisfy the National Curriculum. Much has been said in a variety of forums about teacher-quality, students' attitude and parental support as contributory factors to the unsatisfactory outcomes. However, to date, there is no information that details what teacher-trainers could do to better assist teachers to overcome their expressed challenges.

This study explores human and physical resources teacher-trainers can harness to improve teacher-practice and student performance in mathematics, by engaging in a recycling initiative. It uses a qualitative research design for action research and incorporates techniques of observations, discussions, interviews and reflective writing as the main methods for data collection from the researcher, the five in-service mathematics teachers and the three pre-service teachers. Data analysis was done through multiple readings of the data to identify codes,

categories and themes which were transferred into stories, diary accounts and a dialogue presentation.

The findings indicate that recycling provides a viable alternative means to acquire a good supply of a variety of mathematics resources appropriate for the curriculum, while promoting good environmental habits. It identifies skills and expertise among teachers, which if utilized, can correct deficiencies detected and so help to improve teacher practice. It reveals the kind of supportive environment teachers-trainers can offer, and teachers consider necessary for effective professional development training. While all the teachers say they strongly support the recycling initiative and recognize the potential benefits for mathematics and the environment, they identified challenges they experienced and factors that could impact negatively on its sustainability. A Recycling and Resource Centre for Mathematics was established to help address these challenges and concerns.

Suggestions that might be considered as actions arising from the research, and recommendations for further inquiry are presented at the end of the study.