

Eliciting Learner Errors and Misconceptions in Simplifying Rational Algebraic Expressions to Improve Teaching and Learning

Judah P. Makonye¹ and Nzima Stepwell²

¹*Marang Centre for Science and Mathematics Education, University of Witwatersrand, Number, 27 St Andrews Road, Parktown, 2050, Johannesburg, South Africa
Telephone: +27117173206, Fax: +27862076533, E-mail: Judah.makonye@wits.ac.za*
²*Northview High School, Athol Road & Northview Street, Highlands North, Johannesburg 2192, South Africa
Telephone: +2783 6118 070, E-mail: stepwell.nzima@yahoo.com*

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ABSTRACT This study determined the level to which the learners' errors and misconceptions were reduced when a teaching intervention was directed at their learner challenges. Data was collected from a sample of four boys and six girls of varying mathematical ability from a grade 10 classroom. Participating learners wrote pre-intervention tasks on simplifying rational algebraic expressions. After identifying the errors and misconceptions exhibited by the learners, lesson plans were developed, followed by teaching, which focused on the identified errors and misconceptions. Post-intervention tasks were then written with similar items to the pre-intervention tasks. Post intervention results showed that teaching directed at identified errors and misconceptions helped reduce the errors learners make on average. However, there are some errors that remained difficult to remediate as they kept on appearing even among good mathematics learners. The study recommends further research on algebraic errors, which could not be alleviated by the teaching intervention.