Investigating High School Students' Understanding of Decomposition Techniques in Mathematics

Michael Dennis
Catholic Education Diocese Parramatta
mdennis2@parra.catholic.edu.au

In completing arithmetic and algebraic problems during mathematics lessons, students are required to proficiently manipulate numbers and expressions. Decomposition of numbers and algebraic terms is an important skill as part of this manipulation. This presentation will report on a study that involved Year 9 students completing a computational fluency test that investigated their understanding of decomposition techniques such as using the associative, commutative, and distributive properties. Interviews with students assisted in gauging the level of understanding of decomposition techniques.

This study demonstrated that students in high school continue to have difficulty due to lack of development of conceptual understanding that has been noted in primary school students (Downton et al., 2019). The study also looked at the continued teacher influence on a student's choice of computation strategy (Swan & Bana, 2000) and the implications of student arithmetic thinking on the development of algebraic thinking (Warren, 2003).

References

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