Proceedings of the 28th Annual National Congress of the Association for Mathematics Education of South Africa (AMESA)

Electronic version

Mathematics for Hope: building connections in mathematics teaching and learning

26 – 30 June 2023

University of Cape Town, Western Cape

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FOREWORD

"Hope is not passive. Hope is taking action. And hope always comes from people"
– Greta Thunberg

Welcome to the Western Cape and to the 28th Annual National Congress of the Association for Mathematics Education of South Africa (AMESA).

The AMESA Congress theme for 2023 "*Mathematics for Hope: Building connections in mathematics teaching and learning*" gives opportunities to teachers, teacher educators, researchers, postgraduate students, and education officials among others to share knowledge and experiences on mathematics teaching. AMESA 2023, as a mathematics education community, is tasked to do all it can to ensure that the mathematics classrooms are places where teachers and learners: enjoy learning mathematics; develop connections between topics and concepts; seek applications of mathematics to everyday real-life situations – see connections between mathematics learned at school and mathematics used outside the classroom; seek to address productive struggles during learning; and feel hopeful and successful.

Within the South African mathematics education context, the numbers and proportions of students studying mathematics in the Further Education and Training Phase has stagnated – this is partly due to lack of learner engagement in school. The AMESA Congress 2023, through presentations of 'academic', 'workshops', and 'How I Teach' papers seeks to explore and enhance learners' engagement during learning of mathematics in classrooms. Learners' engagement means "the coming together of affective, cognitive, and operative dimensions that results in students [leaners] valuing and enjoying school mathematics and connecting school mathematics to their own lives" (Attard & Holmes, 2020, p. 2). The ubiquitous and interactive nature of technology, when used for teaching and learning mathematics can improve learners' engagement, and achievement during learning.

The AMESA Congress 2023 has attracted cultivating presentations which are spearheaded by a group of experienced plenary speakers consisting of: one international scholar; three local scholars, and two award winning mathematics teachers from the Western Cape Education Department. These presentations from the plenary speakers have been curated and will constitute papers in the AMESA Congress 2023 proceedings. In addition, the plenary speakers take part in panel discussions and workshops on the congress theme 'Mathematics for Hope' with the aim of interacting with the many congress delegates.

The AMESA 2023 proceedings have two volumes: Volume 1 – consists of plenary and long papers; and Volume 2 – consists of short, workshops, and How I Teach papers. Delegates will receive hard copies of Volumes 1 and 2, and electronic copies of the proceedings on flash drives.

All long and short papers have been subjected to a rigorous peer reviewing system where each paper has been reviewed at least twice by different reviewers and scrutinised further by members of the Academic Coordinating Team (ACT). For each paper, the authors had to revise their papers in response to the reviewers' comments and/or suggestions accordingly and tabulate the revisions to the satisfaction of the ACT.

In conclusion, we would like to thank: the Local Organising Committee; National Organising Committee; the University of Cape Town – the hosts; the AMESA Congress 2023 sponsors; plenary speakers; presenters; and delegates.

Duncan Mhakure and Connie Skelton
AMESA Editorial Team 2023

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All papers submitted to the congress were sent for blind reviewing. Many thanks to our review team who reviewed the papers in a constructive manner.

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Manare Setati
Benjamin Tatira
Matheko Thamae
Lyn Webb
Yasheemah Williams

REVIEW PROCESS

Each of the short paper, workshop, How I teach submissions, accepted for publication in this volume of the Proceedings were subject to blind peer review by experienced mathematics educators. The academic committee considered the reviews and made a final decision on the acceptance or rejection of each submission, as well as changing the status of submissions.

Number of submissions: 134

Number of plenary paper submissions: 6

Number of long paper submissions: 51

Number of short paper submissions: 10

Number of 1-hour workshop submissions: 5

Number of 2-hour workshop submissions: 33

Number of How I Teach paper submissions: 25

Number of poster submissions: 4

Number of submissions accepted: 123

Number of submissions rejected: 11

Number of submissions converted to a different format: 10

Number of submissions withdrawn by authors: 11

Thank you to each reviewer for giving their time and expertise to review the submissions.