

NSTF DISCUSSION FORUM

**The nature and value of interventions in
mathematics education by NGO's**

Kerstin Jordaan

South African Mathematical Foundation

South African Mathematical Society

University of South Africa

South African Mathematical Foundation: Board of Directors

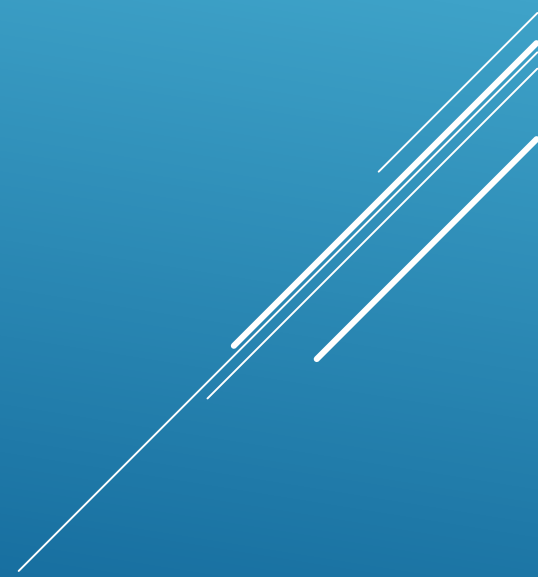
- ▶ South African Mathematical Society
- ▶ Association for Mathematics education of South Africa
- ▶ Department of Basic Education
- ▶ Department of Higher Education
- ▶ Department of Science and Technology
- ▶ NRF/SA Agency for Science & Technology Advancement
- ▶ South African Statistical Association
- ▶ Statistics South Africa
- ▶ Actuarial Society of South Africa

GOVERNANCE

A series of white diagonal lines of varying lengths and thicknesses, located in the bottom right corner of the slide, creating a modern, abstract graphic element.

- ▶ Learner development
- ▶ Teacher development
- ▶ Advocacy
- ▶ Research

PROJECTS



PROJECTS

The SAMF identified four thrusts, namely learner and teacher development, advocacy and research.



Teaching Mathematics for understanding

- ▶ Conceptual understanding
- ▶ Strategy use and development - problem solving
- ▶ **Procedural fluency**
- ▶ Logical Reasoning

MATHEMATICS T&L FRAMEWORK



Teaching Mathematics for understanding

- ▶ **Conceptual understanding**
- ▶ Strategy development - problem solving
- ▶ Procedural fluency
- ▶ Logical Reasoning

MATHEMATICS T&L FRAMEWORK



Teaching Mathematics for understanding

- ▶ **Conceptual understanding**
 - ▶ **Mymaths buddy – improving Mathematical terminology**
- ▶ Strategy development - problem solving
- ▶ Procedural fluency
- ▶ Logical Reasoning

MATHEMATICS T&L FRAMEWORK



Teaching Mathematics for understanding

- ▶ Conceptual understanding
- ▶ **Strategy development - problem solving**
- ▶ Procedural fluency
- ▶ Logical Reasoning

MATHEMATICS T&L FRAMEWORK



Teaching Mathematics for understanding


- Conceptual understanding
- **Strategy development - problem solving**
 - ✓ **Teacher problem solving courses – primary and secondary**
 - ✓ **ProSET funded**
- Procedural fluency
- Logical Reasoning

MATHEMATICS T&L FRAMEWORK



TEACHER PROBLEM SOLVING COURSES

Problem solving strategies:

- Read and understand the question
 - Draw a figure
 - Look for a pattern
 - Introduce Appropriate Notation
 - Use a logical argument
 - Games and Puzzles
- 
- A decorative graphic consisting of several parallel white lines of varying lengths, slanted upwards from left to right, located in the bottom right corner of the slide.

PRIMARY AND SECONDARY TEACHER PROBLEM SOLVING COURSE

Examples:

- Read and understand the question
How much soil is there in a hole that measure 5 by 4 by 2 meters?
 - Draw a figure
 - Look for a pattern
 - Introduce Appropriate Notation
 - Use a logical argument
 - Games and Puzzles
- 