Mathematics Message from Richard Marumani

Good day colleagues. I hope you are all safe. This week we need to zoom into **Learner misconceptions in Mathematics.**

Making mistakes in math can help children learn and understand more deeply. A**ll mistakes are not equal**. The overall purpose of error analysis is **to improve student learning outcomes** in Mathematics through the use of more **effective instructional techniques**.

D**ifferent types of math errors**:

- Conceptual
- Factual
- Procedural
- Careless

Analysing Errors:

- **Identify and recognise common error patterns** in students' math solutions to inform instruction
- Plan where to **fit error analysis** into your use of student performance data and your data decision-making process.

Correcting Student Errors

- Using **micro-instruction** progressions to **target specific error patterns**
- **Re-teaching** based on an identified error pattern
- Capitalise on the use of **examples** when re-teaching
- **Linking instruction and practice**
- Focus the student on the **"place**" in the process where the error occurred
- Determine the **instructional strategy** to teach the skill.
- Be sure that the necessary **pre-skills** for strategies are present.
- Do students understand a big idea (i.e., concept)?
- Do students know the facts in a computation problem?
- Encourage learners **to slow down – do not** rush to finish first
- Check the answer after solving
- Introduce concepts in **hands-on**, conceptual ways.
- Teach a concept using **more than one way**

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