

Burwood Public School focus area:

Using Communication for students to explore their understandings

Key Understandings

- maths classroom should be a communication classroom-maths is about solving problems and problems are solved through communication.
- students are talking to each other and writing in English. Not just math symbols.
- math learning takes place through task-related talking -the conversation students have is where learning takes place...*It's the thinking they do while they're talking that leads to an understanding in math.*
- teaching communication in maths is very similar to teaching communication in English-teaching maths vocabulary is the same as teaching English vocabulary-EAL/D pedagogy:
 1. explain the new word
 2. restate in own words
 3. create non-linguistic representation of the word
 4. deepen understanding of word through activities
 5. partner and small group discussions about the word
 6. play games and review the vocabulary
- explicitly teach symbolics of maths as its own language for communicating mathematical ideas in short, simple ways.
- practise translating through words into mathematical symbols and vice versa
- daily opportunities for students to write about math helps them learn maths better.
- Students should be given opportunities to explore digital tools (e.g. Edmodo, blogs) to record mathematical thinking and reasoning
- There are 6 levels of mastery that a student must move through in order to learn and retain mathematical concepts:
 - Level 1- Connects new knowledge to existing knowledge and experiences
 - Level 2- Searches for concrete material to construct a model or show a manifestation of the concept
 - Level 3- Illustrates the concept by drawing a diagram to connect the concrete example to a symbolic picture or representation
 - Level 4-Translates the concept into mathematical notation using number symbol, operational signs, formulas and equation
 - Level 5-Applies the concept correctly to real-world situations, projects and story problem
 - Level 6-Can teach the concept successfully to others, or can communicate it on a test
- Explicitly teaching academic maths vocabulary as the same way as you teach language

