

Learning Activity 40 : Measurement - independent problem solving

Learning Behaviours:

- Perseverance - researching and learning from “thinking explained” examples (from textbook with thoroughly worked examples - “thinking steps” and “what to write steps”)
- Explaining solutions with clarity in both written and oral forms.

Teacher: BKD

DATE: June '06

Class: Yr 9 Maths

Learning Activity Description:

Students undertook a project, called “Burke’s Backyard”, involving various aspects of measurement (perimeter, area, volume) and ratios. The six tasks involved lawn trimming (edges and mowing), building / painting a deck area, painting a self designed bench, building / stocking a fish pond and costing of these. They had to make judgements about their answers and modify the task to make them more realistic.

After completing each task they were required to explain their work to another student (not in their table group) or to myself (2 out of 6) and have their explanation accordingly evaluated on their “explanation record” slip.

Year 9 MA Explanation Record

Name:.....

Purpose: to help improve communication of “what you know” - i.e. having thorough and clear written / verbal explanations.

H.O.M. - Thinking and communicating with clarity and precision.

Grading:

- A - explanation well written and clearly explained
- B - explanation well written and explained OK
- C - explanation written OK and explained OK
- D - explanation poorly written and not well explained
- E - not done

Task No.	Grade / comment	Peer	BKD
1			
2			
3			
4			
5			
6			

This slip became part of their assessment.

Once their assignment was complete students did a mixture of textbook problems by following an example similar to the problem to be solved. Their final assessment task for

this section will involve solving several unfamiliar problems given a related worked example. i.e. knowing a range of formula is not the priority but being able to use a worked example to solve an unfamiliar problem is.

Discussion Tool:

At the start we had a short discussion on the importance of communicating answers clearly to others - as a group students were able to identify what communication involved in both the written and oral forms.

At the end students completed stems in journals overnight - see their comments below.

Student Comments:

Communicating with clarity and accuracy is important because

- Shows what you can learn, shows how much you know
- It helps others understand and learn
- Makes things more understandable
- Not making it complicated
- Gives you confidence in what you are doing
- People can follow your work better
- It gets your point of view across
- It shows other people that you understand what you are talking about

Explaining to others helps deeper learning by

- Letting the explainer do their work before trying to tell us
- Helping each other when stuck
- Helps us understand more, get deeper understanding, it helps the person explaining to understand it better as well
- Helps us learn from mistakes
- Increases your thinking capacity
- Expanding and trying to word it properly
- Watching others explain their ideas
- Helps you understand what and how you are doing
- Having to think about it yourself first
- Helps you understand different ways of doing things
- Makes us break down our work so that others can understand it

Teacher Journal:

- The “explanation record” was well used by most students and I feel their learning was enhanced by adding this requirement.
- I intend to keep on drawing their attention to their list of benefits for them in explaining to others.