

Learning Activity 37: Algebra - independent learning

Learning Behaviours:

- Learning from “thinking explained” examples (from textbook with thoroughly worked examples - “thinking steps” and “what to write steps”)
- “Knowing when you know” - selecting own work

Teacher: BKD

DATE: April '06

Class: Yr 9 Maths

Learning Activity Description: Learning and reviewing algebra - independent learning from “thinking explained” examples and discussion within their groups followed by their selection of problems. A teacher lead discussion on the main points / ideas was conducted at the end of each main concept.

Discussion Tool:

Brainstorm → journal entry → collated ideas discussed by whole class. On starting a unit on Algebra at Yr 9 we had a 10 min brainstorm on the two stems

Shallow learning is.....

Deep learning is

Students then made individual journal entries on the two stems for homework, these were then collated and fed back into a 10 min class discussion on how it related to the way they were currently learning their algebra (independent learning from “thinking explained” examples and discussion within their groups followed by their selection of problems)

Student Comments:

Student responses from individual journal entries (homework after a 10 min brainstorming class session):

Shallow learning is:

- Not really listening, pretending to listen, not absorbing the information
- Asking “dumb” questions
- Copying other people’s work or off the board without thinking and finding mistakes, sponging
- Rote learning, do repetitive questions
- Don’t retain ideas / information, short term memory
- Not really partaking in discussions
- Not able to explain to others
- Pretends to know
- looks busy
- can’t do the hard ones

Deep Learning is:

- Picking up mistakes
- Really listening and taking it in
- Thinking for yourself, actively thinking
- Ask good relevant questions, thinks before asking, asking thinking questions
- Understanding what you write down
- You can build on ideas from year to year
- Being able to transfer information
- Be able to explain ideas to classmates / teacher
- Re-reading work, checking answers, double checking answers
- Selecting and doing different questions
- Following through steps
- Giving opinions in discussions, talking through problems
- Being independent
- Can remember things later

Teacher Journal:

- The short discussions were lively and yielded good insights from students. The brainstorming gets them started but the overnight individual journal comments that result are usually the most valuable.
- My biggest challenge is to make links between these and the way they actually learn their algebra in this unit.
- After about three lessons I have observed consistently good discussions between students, questioning has been excellent and for most there is effort to understand the concept and not just do examples.
- Students did choose the amount of problems they needed to be doing a suitable amount of repetition.
- I found it useful to refer to their list of “good / shallow” learning behaviours where these were observed in class and also just reminding them regularly of these at the start of each lesson helped them remain focused.