



Maths and literacy...is there a “golden bullet”?

The problem

Some of our pupils are struggling with the wording on some of the new maths exam papers. Are you aware of any resources/tips on engaging with literacy in maths lessons, other than keyword or vocabulary tests?

Advice from other network members

Slough and Eton School

Slough and Eton School have made great progress in developing the approach below for a C/D borderline class. To start with when faced with a functional skills question pupils would rush in to it, not reading the question properly and just throwing any Maths they knew at the problem and hoping something was right. To try and focus their attempts, teachers at Slough and Eton came up with the following:

1. Giving prompts.

To solve the problem.

- 1) Highlight key information in yellow
- 2) Highlight instructions in blue
- 3) Bullet point key information so you have it all in one place
- 4) Ask yourself what you are being asked to find/do?
- 5) Ask yourself what Maths you have to do to answer the question - bullet point if more than one process.
- 6) Do the Maths
- 7) Ask yourself if you have answered the question

Explanation

- 1) What were you asked to find?
- 2) What Maths did you use?
- 3) Explain why you did each step and what it told you?
- 4) Ask yourself is there a more efficient way you could have answered the question?

2.

Revisiting past papers with the prompts in mind

Teachers revisited past papers and took individual questions with five or more marks and gave the pupils each a question and asked them to solve it. Teachers found by the simple act of highlighting it forced pupils to actually read the question, giving themselves time to think and as such gave them a better idea of what was being asked of them.



3. Asking questions

Teachers then supplemented the bullet points by **asking lots of questions** - things like: "If you divide, what is the answer telling you?", "Is that going to help you get to the answer?", "What word in the question tells you that piece of information?", "What have you worked out? Why? Is that what the question wanted?"

4. Using whiteboards

Instead of working in their books, **pupils work on white boards**. Once they have got a method that works, they write it up on the white board, with an explanation. The teachers at Slough and Eton find this works well as pupils do not like crossing out in their books. So having the boards means they are willing to try things, even if they are not sure, which they wouldn't in their books.

At the start of introducing this approach, pupils would only get through one question in a lesson and then the teacher would ask one person to come up and explain how they had gone about answering the question and talk us through their workings. As the lessons have gone on, teachers at Slough and Eton have found themselves asking less questions as pupils are asking each other instead and their explanations have come on leaps and bounds as has their confidence.

Longdean School

Longdean School have been going great guns in addressing this issue through helping students to acquire the vocabulary they need in different ways:

1. For students

This vocabulary resource sheet is a useful reference point for students – complete with definitions of terms and accompanying examples.

[http://www.literacytrust.org.uk/assets/0001/4015/Exam_Vocabulary - Maths.doc](http://www.literacytrust.org.uk/assets/0001/4015/Exam_Vocabulary_-_Maths.doc)

2. For teachers

This PowerPoint presentation for their maths teachers' CPD is also useful. It addresses how mathematical language is used in every day language; synonyms for maths symbols; as well as ideas for introducing key vocabulary to staff.

http://www.literacytrust.org.uk/assets/0001/4014/Literacy_Difficulties_and_Mathematics.ppt