

REFLECTIONS

How do I start reflecting on the range of articles in this issue of *MT*? Perhaps the dictionary will help. Most definitions of ‘reflection’ involve the word ‘reflect’ except for: ‘consideration; an idea arising in the mind; a comment or *apophthegm*’. How strange that the crossword clue two weeks ago was ‘the line from the centre of any regular polygon at right angles to any of its sides’ (apothem), but *apophthegm* is evidently a terse saying or maxim, an aphorism – ‘a short pithy maxim’. I think I’ll come back to this later.

This term I have been sitting at the back of 21 different classrooms, observing students teaching, challenging me to reconsider ways of explaining mathematics to primary pupils. This is always a fascinating experience, especially since some of the students have spent the equivalent of nine days sitting at the back of my classroom observing me teach. The mathematics sessions I have seen have been diverse, absorbing, encouraging and challenging, just like the range of articles in the current *MT*. Instead of expanding on the contents list, I have rambled through this mathematical maze of articles and offer my thoughts, observations and several questions.

Although I did not know Dick Tahta personally, I recognise the enormous contribution he made to the ATM and mathematics teaching and learning in general. The introduction to *Images of Infinity* (1992), one of several books from the ‘Leapfrogs’ era, seems to summarise his approach:

‘The series aims to enable people, whether they have specialist knowledge or not, to get inside different areas of mathematics. This is achieved by presenting springboards for activity and thinking.’

See what enrichment can be discovered in problem solving when we ‘let go’ and take risks, like walking into a room with an old but untested problem to share with our pupils.

Who could possibly suggest that we ‘get rid of geometry in KS2’? An interesting case is made with discussion of an old puzzle that the most accessible context for number should be length, and emphasis on doing, seeing and saying what is seen.

Following the detailed description of the development of the column method for addition reminds me of Tom Lehrer’s ‘New Maths’ (without the music).

Read about a challenge to the widely accepted progression of subtraction to decomposition that uses the idea of constant difference as we move up and down the number line.

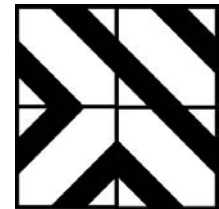
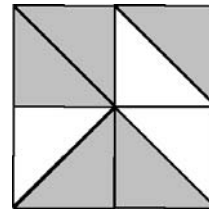
Consider the creativity of young children, how

they learn to understand jokes and then invent their own. Is mathematical behaving badly a sign of creativity? How can we moderate learning behaviour?

You can find the importance of measures in basic mathematics, returning to the underlying theme of scale again, and a range of problems to encourage logical thought by constructing, extending or revising mental networks. Polya suggested that ‘mathematics is being lazy’ – is this another case of inappropriate behaviour?

Do some, most or all of you think there is a case for reviewing the current obsession with pupils reviewing the what they have learned, as it may be more important to consider what we *haven’t* learned at the end of a teaching session?

ICT work with 2d shape comes from practical work in KS1 and KS2 – cutting up rectangles and putting them back together is an excellent practical task. First, the diagonal cut means that no measurement is required; second, the task of bisecting and reassembling the shapes has links to partitioning and recombining in number work. Cutting a square instead of rectangle (or using another quadrilateral) produces building blocks for the five-piece tangram – just rearrange the bisected squares and shade to show the five pieces. Now what does that look like?



There is another view of the ‘handshakes problem’, with links to shape and space that extend thinking into three dimensions, and you can also find a future ATM conference theme, ‘Maths is when ...’, and a list of possible session titles.

Can we afford to stop SMILE-ing mathematically?

What really is free on the internet and can a website encourage pupils to do homework?

And I wonder why log tables are particularly good for propping up log tables?

Finally, the pithy maxim for teachers is ‘Aspire to Inspire before you Expire’, thanks to Sheila, simply the best primary teacher.

Enjoy your reading, and I hope you find something to influence your mathematical behaviour.

Keith Windsor works with primary pupils, students and teachers in Essex.

Reference

Hemmings, R. and Tahta, D. (1992) *Images of Infinity*, Tarquin

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