

Don Steward



As a life-long learner, Don was always seeking new ways to approach mathematics. He inspired children and teachers as a superb maths educator for 47 years, collecting, trialling, and disseminating ideas for effective learning. Motivating learners to think, Don enticed them into smiling about the mathematics they were tackling. His passion for maths and ability to share that with others has been absolutely incredible. Don achieved a first-class honours degree in Mathematics and Theoretical Physics at King's College, London, as well as the Alan Fowler memorial prize for best joint honours in Science before completing a PGCE at Exeter University.

Don had a huge influence nationally, even though his main work was in Shropshire and Telford & Wrekin for all but one year of his career. He excelled as a teacher, Head of Maths and Assistant Headteacher. He held advisory roles for Shropshire, Telford and Wrekin and Birmingham LAs and was an Ofsted Inspector. As a self-employed, independent consultant with his own company MEDIAN, Don developed an extensive collection of rich resources for the classroom, using these to lead professional development for 23 different LAs. He also supported Initial Teacher Training with Keele, Cambridge, Manchester Metropolitan, Birmingham City, Nottingham and Birmingham Central Universities. Don captivated maths educators through articles, workshops and keynote talks for ATM, MA, Maths Hubs and other organisations. He amazed people with his enormous generosity, always willing to give up his time to answer questions or provide materials and ideas for others. Relentlessly modest about his influence, Don would always rather accredit others for inspiring him.

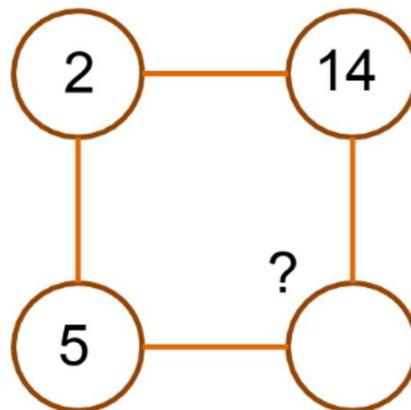
Don dedicated half of his working life to teaching roles and half to advisor/consultant roles. He never saw the roles as teacher and adviser/consultant as mutually exclusive. It's fascinating how he switched between these. Don felt strongly that teachers have a key role in supporting each other's professional development through collaboration, and similarly believed that advisers/consultants should monitor the influence of their work with children. As adviser/consultant, Don would support teachers by accompanying them to watch others leading lessons or providing demonstration lessons. He was always truly appreciative of teachers trialling his materials to gather classroom-based evidence.

Eight of Don's jobs were each for five years and none were ever longer. We don't know if Don made a conscious decision to have a new professional challenge every five years and extend his reach to more

children and teachers or maybe the number five had extra special significance (introducing Solving Equations, Don would start with “I think of a number” and five was always the solution). Some of Don’s tasks had the same answer for each question, or maybe had one exception, to draw attention to mathematical structure. I felt the same sense of enlightenment that pupils show when the answers are all the same or formed a pattern. Maybe Don composed his career with underlying depths in the same way he created tasks? Whilst Don was so open and willing to discuss maths, he was much more private about non-mathematical matters, and tended to speak very little about himself.

Don has become well known internationally for his provision of insightful and effective tasks. His [blog](#) is a treasure trove of mathematical insights and attracts over 3000 visits daily. He set up the blog initially to store his own resources as a teacher and yet millions of children have benefitted from Don’s generosity in making these freely available, with secondary teachers often using it as their ‘first port of call’. Many of Don’s MEDIAN investigative and demanding problem tasks have featured on [NRICH](#).

As well as leading several Maths Hub Work Groups on his own, or with others, Don has worked closely on the planning of our local Year 5–8 Bar Modelling and Multiplicative Reasoning group, giving permission for his [Boxes](#) resource to be used. This has worked well to focus on the mathematical structure of multiplicative relationships, following progression from bar models to double number lines to ratio tables from the [NCETM microsite](#).



Reversing the process, by asking for suggestions of the sorts of questions that could fit this structure is illuminating, usually prompting further thought and discussion. Here are a few examples of the sorts of questions that teachers or students offer:

- If you need two eggs for a recipe to make 14 pancakes, how many pancakes could you make with 5 eggs, if you have an abundant supply of all other ingredients?
- If two cakes cost £5, how much would it cost to buy 14 of the same cakes?
- If 2 is the numerator and 5 the denominator, what would be an equivalent fraction with 14 as the numerator?
- If 2 items are represented by 5° in a pie chart, how many degrees would be needed to represent 14 items in the same pie chart?

Paying attention to the meaning of the ‘multiplier’ in these questions, as well focus on horizontal or vertical ‘multiplying’ stimulates interest. Occasionally you get a different focus, such as:

- I cycle at 14 mph for 5 hours. My friend wants to complete the same journey in only two hours. What would her average speed need to be to achieve this?

The examples help to highlight the same multiplicative structures for these topics, suggesting maths can be easy if you understand these connections and draw attention to them. We felt that around 70–80% of recent GCSE questions are underpinned by multiplicative relationships. Children that find maths to be difficult are less likely to spot these connections for themselves, seeing these examples as separate, unconnected bits of maths. Don liked to look at the proportion of opposite and adjacent sides in right angles triangles to introduce [Trigonometry](#).

It's heart-warming to see the worldwide appreciation of Don's work shared on Twitter through the hashtags [#donsteward](#) and [#donaday](#). Don was very clear that being able to reason and articulate sensible conjectures is essential to making sense of maths. He shared John Mason's belief that every maths lesson should include generalising.

My wife Emma was incredibly lucky that Don was one of her subject mentors as a trainee teacher. It's worth sharing some insight about Don as a teacher. Emma noticed that a very high proportion of children gave answers willingly, in all his classes. Don replied only with 'thank you' to every response shared in whole class situations. This gave children positive recognition and maintained curiosity. Children wanted to answer and had no fear. He was passionate about ensuring that maths was accessible to all.

Those of us fortunate enough to know Don as a friend with similar interests occasionally gained insights to his wider interests. Don enjoyed folk music gigs, walking in the Shropshire countryside and was discerning in his choice of local cafes and restaurants to find good vegetarian food or cake. Don also found that meditation helped him to think deeply and improved focus. His kindness, thoughtfulness and generosity will be deeply missed. When Don bought a gift for our newly born daughter, he bought presents for her older brothers too, so they weren't left out.

Don's friends will tell you that he was thoughtful to all, adults and children alike – "He was a friend to the whole family". Don's colleagues and students will tell you he inspired them to become better thinkers. Thinking and thoughtfulness permeated through Don's life. Don requested and made arrangements for his blog to remain freely available for all to access.

Don was renowned internationally, but locally, we will miss a good friend and inspiration to our Maths community and remain forever inspired by his influence in so many ways.

Rest in Peace Don.

Graham Charles.

SHaW Maths Hub Lead.