#### by ncetm 3 months ago

# Books about teaching maths: which have really helped you and why?

Summary of the #mathscpdchat discussion hosted by @martynyeouk on 9 January 2018



forget #mathschuchat and no poils please! pic.twitter.com

MARTYN @MARTYNYEOUK · 3 MONTHS AGO

Sarah Lhermette @sarah\_marie893

Looking forward to tonight's chat! A great opportunity for learning #mathscpdchat twitter.com/martynyeouk/st...

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#### Which books would you recommend?



So which books have people used that they would recommend? #mathscpdchat



Anyone heard of this book by @solvemymaths??? #mathscpdchat @stevejmcc pic.twitter.com/8EGjGxgRP3

MARTYN @MARTYNYEOUK · 3 MONTHS AGO



Martyn @martynyeouk

@solvemymaths @stevejmcc @mathscpdchat What would you say is the best advice in this book? #mathscpdchat

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Maths Teacher @MathsTeacherKYP

#mathscpdchat For me, Malcolm Swan's Collaborative Learning in Mathematics stands out. Does his intro to the Standards Unit count as a book? Concise, practical. ncetm.org.uk/files/224/impr...

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Martyn @martynyeouk

@MathsTeacherKYP What have you learnt from it? #mathscpdchat

## Better Mathematics

The Low Attainers in Mathematics Project (LAMP) was one of three post-Cockcroft, Department of Education and Science (DES) studies related to low attainers. The Project was based at the Mathematics Centre, West Sussex Institute of Higher Education (WSIHE).

The Project aimed to develop and encourage 'good practice' in mathematics teaching. At the time of the report the work was still ongoing as development was taking place in the classrooms of some 2000 teachers throughout six local authorities with students across the age and ability range.

The work undertaken by teachers deliberately focused on improving students' achievement, attitudes, confidence and interest in mathematics. They were released from their teaching commitments on one day a week for a year which enabled them to engage in even greater reflection, experimentation and evaluation of their own classroom practice. This research was supported by substantial 'case study' writing produced by each of them over a period of two years.

The recommendations for action and the statements made are careful distillations of these experiences. The report was an invitation to those concerned with education at all levels to experiment, discuss, debate, strengthen and refute as a result of their own experiences.

Specific concerns such as the problem of girls and mathematics, and the use of computers in mathematics, important as they were, did not emerge as different in essence from the Project's general concern to improve the quality of students' mathematics. Computers brought a wealth of new possibilities to the mathematics classroom.

The Report is presented in a dialogue style with quotations which are not simply illustrative. They contain important points and in many ways may be considered the main part of the text. Each chapter of the report considers a major focus and emphasis of the Project's work, and concludes with a summary, outlining the situation at present and recommendations for action and aims to some extent to be self-contained.

### **Even Better Mathematics**

#### Looking back to move forward

#### By: Afzal Ahmed, Honor Williams



#### About Even Better Mathematics

Based on a project involving extensive classroom-based action research, this is an important book that looks at how teachers can improve students' achievement, attitudes, confidence and interest in mathematics. Suitable for those concerned with mathematics education at all levels.

As an 'oldie' I would still recommend 'Better Mathematics' which I found was a great help when I first started teaching #mathscpdchat You can find it at stem.org.uk/resources/elib... pic.twitter.com/tO2zBmJ4f5

MARY PARDOE @PARDOEMARY · 3 MONTHS AGO



Martyn @martynyeouk

@PardoeMary Thanks for the link ... why was this so useful to you? #mathscpdchat

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#### Martyn @martynyeouk

This has been recommended by @MathsladyScott #mathscpdchat twitter.com/mathsladyscott...

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Craig Barton @mrbartonmaths

Forgot to add #mathscpdchat sorry! twitter.com/mrbartonmaths/...

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@martynyeouk

Martyn

Thanks for this @mrbartonmaths #mathscpdchat twitter.com/mrbartonmaths/...

[I]n our culture of mathematics, an all-too-common approach is to state the assumptions, state the theorems, prove the theorems, and stop. Any questions? What makes this approach so ineffective is that it answers questions the student hasn't thought to ask... If you want someone to follow your mathematical disquisitions voluntarily — or better yet, happily — you have to help him or her love the questions you're asking.

 Steven Strogatz (2014)
 Writing About Math for the Perplexed and the Traumatized, Notices of the American Mathematical Society 61, pp286–291.

@martynyeouk #mathscpdchat | For me, influences often come from readings not necessarily about teaching, but that nonetheless somehow spark the creativity in me to help students if not love at least like the questions I ask (@stevenstrogatz bit.ly/2zv6cKP read.bi/2aWC3Vq)... pic.twitter.com/383J7IeFFd

MATHS ED @MATHSEDIDEAS · 3 MONTHS AGO



This is the new book just about to come out by @mrbartonmaths . #mathscpdchat @stevejmcc pic.twitter.com/PZwu6UuGSa

MARTYN @MARTYNYEOUK · 3 MONTHS AGO



@martynyeouk It 'opened-my-eyes' to effective ways (that I might not yet have thought of) of interacting with pupils. #mathscpdchat

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Maths Teacher @MathsTeacherKYP

@martynyeouk #mathscpdchat Was expecting that! I think, through encountering Swan's work and the Standards Unit, (and Susan Wall as well) the most impactful aspect has been considering multiple representations whenever I'm planning/teaching. Generally, just made me think!

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Martyn @martynyeouk

@MathsTeacherKYP Always a good thing to stretch your own thinking! #mathscpdchat

Ed Southall @solvemymaths #mathscpdchat twitter.com/solvemymaths/s...

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Maths Teacher @MathsTeacherKYP

@PardoeMary @martynyeouk #mathscpdchat Yes, I remember that!

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#### Martyn @martynyeouk

Really great to hear ... # mathscpdchat twitter.com/solvemymaths/s...

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Craig Barton @mrbartonmaths

@martynyeouk I love the diverse range of recommendations from my guests, both in terms of topic area and year of publication. I'm working my way through them all and learning loads #mathscpdchat

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It is not enough to believe that
something works, that it is a good way
to proceed, or even that it is true.
We need to know *why* it's true.
Otherwise, we won't know anything at all.

— lan Stewart (2007)

Letters to a Young Mathematician. Hachette UK.

@martynyeouk #mathscpdchat | @JoatStewart's lovely 'Letters to a young mathematician' ams.org/notices/200705.... An 'update' of sorts to Hardy's apology that helps me treat my students as mathematicians in the making... pic.twitter.com/Q2MYHgPTHr

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@mrbartonmaths Which has made the biggest impact on you so far? #mathscpdchat

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# The paradoxical conclusion is that it would be very unlikely for unlikely events not to occur.

- John Allen Paulos (1988) Innumeracy: Mathematical Illiteracy and Its Consequences

@martynyeouk @JoatStewart #mathscpdchat | @JohnAllenPaulos' 'Innumeracy: Mathematical Illiteracy and It's Consequences' — penguin.co.uk/books/25979/in.... A book that made me pause about the depth of my teaching, and about what it means to be innumerate... pic.twitter.com/yfaO0KoXga

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Craig Barton @mrbartonmaths

And forgot the hashtag again! I'll get use to this Twitter one day #mathscpdchat twitter.com/mrbartonmaths/...

#### Books about teaching maths: which have really helped you and why?



@martynyeouk @JoatStewart @JohnAllenPaulos #mathscpdchat | The ideas of #CAME (Cognitive Acceleration In Mathematics) #ThinkingMaths influenced my pedagogy profoundly, mainly in that it made me think about it, about #CognitiveConflict, #ZPD — bit.ly/2h3Mo5g @HeinemannPub pic.twitter.com/5JPvIANJbH

MATHS ED @MATHSEDIDEAS · 3 MONTHS AGO



Martyn @martynyeouk

Great recommendation from @mrbartonmaths Dont forget #mathscpdchat twitter.com/mrbartonmaths/...

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Ed Southall @solvemymaths

*@*martynyeouk *@*stevejmcc *@*mathscpdchat It's not so much a guide to teaching, but more of a subject knowledge enhancement book. But there are some teaching ideas to help develop understanding too. *#*mathscpdchat

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Martyn @martynyeouk

@mrs\_tullock @GNMH\_MathsHub What is it about this one that makes it so good?
#mathscpdchat



@martynyeouk @JoatStewart @JohnAllenPaulos @HeinemannPub #mathscpdchat | Don Steward's 'Extended Tasks...'. The great man gave me this at the end of my PGCE. Put the problem at the centre of your thinking, structure and gradate from there. And of course \*the\* best maths teaching blog out there donsteward.blogspot.co.uk/?m=1... pic.twitter.com/rNyTxZAoA2

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Martyn @martynyeouk

@solvemymaths @stevejmcc @mathscpdchat Always useful to improve subject knowledge #mathscpdchat



LAURA TULLOCK @MRS\_TULLOCK · 3 MONTHS AGO



Martyn @martynyeouk

@MathsEdIdeas @JoatStewart @JohnAllenPaulos @HeinemannPub Thank you so much for all these recommendations! #mathscpdchat

Notwithstanding the many factors that can sometimes make it difficult, even seemingly impossible, to teach effectively some students, every good teacher knows there is built into this transaction the *possibility* that it will realize something for the better.

- David Halpin (2003) Hope and Education: The Role of the Utopian Imagination

@martynyeouk @JoatStewart @JohnAllenPaulos @HeinemannPub #mathscpdchat | David Halpin's 'Hope and Education: The Role of the Utopian Imagination' — taylorfrancis.com/books/e/978113..., see also infed.org/mobi/hope-utop.... Whilst not about maths teaching, this was a call to arms of sorts for me educatively, politically and relationally... pic.twitter.com/oSVwtSaD6z

MATHS ED @MATHSEDIDEAS · 3 MONTHS AGO



Martyn @martynyeouk

#mathscpdchat twitter.com/oldandrewuk/st...





#mathscpdchat en.m.wikipedia.org/wiki/A\_Mathema... supports me in the sense it reminds me
of things I find important

🔰 3 MONTHS AGO



Martyn @martynyeouk

@mrs\_tullock @joboaler Why has this been so useful for you?#mathscpdchat



This book helped with my subject knowledge. Have you used similar? **#mathscpdchat** pic.twitter.com/HmiWa3aSC0

MARTYN @MARTYNYEOUK · 3 MONTHS AGO

D CURRING CO
Your daily dose of Maths Medicine <sup>®</sup> from Professor Smudge
Contents: 3 months' supply Professor Smudge says "You can do it, dudes"

@martynyeouk @JoatStewart @JohnAllenPaulos @HeinemannPub #mathscpdchat @ProfSmudge 'maths medicine' — mathsmed.co.uk. Rarely out of my back pocket as an NQT. Just fantastic... pic.twitter.com/Ca3RSsWCBI

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MATHSTHROUGHSTORIES @MATHSSTORIES · 3 MONTHS AGO



Martyn @martynyeouk

@teachmaths And what is it that you find important? #mathscpdchat

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Maths Ed @MathsEdIdeas

@martynyeouk @JoatStewart @JohnAllenPaulos @HeinemannPub @ProfSmudge
#mathscpdchat | @standupmaths' 'Things to make and do in the fourth dimension' |
@robeastaway's 'Why do buses come in threes?' | @MarcusduSautoy's 'Symmetry' | @SLSingh's
'Fermat's Last Theorem' | And so many more. The point being to just read widely and
inspiration will follow!

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Martyn @martynyeouk

@PardoeMary Why was this useful? #mathscpdchat



Not strictly a maths book, but most examples provided are mathematical and it's just great advice that cuts through the nonsense **#mathscpdchat** pic.twitter.com/KOuXzOijdg

ED SOUTHALL @SOLVEMYMATHS · 3 MONTHS AGO



Martyn @martynyeouk

#mathscpdchat twitter.com/mrs\_tullock/st...

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#### Martyn @martynyeouk

@MathsStories @mathscpdchat Thank you so much! Can explain why these stood out?
#mathscpdchat



The book I'm reading at the moment is flipping brilliant. The @ATMMathematics's Practising Mathematics by Tom Francome and Dave Hewitt. Loads of activities along the Purposeful Practice / Mathematical Etudes lines that I discussed with @colinfoster77 on the podcast #mathscpdchat pic.twitter.com/fsBteYDxVC

CRAIG BARTON @MRBARTONMATHS · 3 MONTHS AGO



@MathsEdIdeas @JoatStewart @JohnAllenPaulos @HeinemannPub @ProfSmudge Why was it so good??? #mathscpdchat

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W

Maths Ed @MathsEdIdeas

@martynyeouk @JoatStewart @JohnAllenPaulos @HeinemannPub Hope someone can get something from them! #mathscpdchat

3 MONTHS AGO



Martyn @martynyeouk

This is so positive to hear #mathscpdchat twitter.com/mrs\_tullock/st...



Recommendations for students or NQTs?

Books about teaching maths: which have really helped you and why?





When I was first teaching I used 'Starting Points' all the time. The photos are now dated, but most of the ideas are still very useful. It is here: abebooks.co.uk/97809062125116... #mathscpdchat pic.twitter.com/vvUo8VarNN

MARY PARDOE @PARDOEMARY · 3 MONTHS AGO



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Here's a crowd-sourced list with reasons...





Martyn @marty

@martynyeouk

#mathscpdchat twitter.com/mathsstories/s...

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Martyn @martynyeouk

@MathsStories @mathscpdchat That is so important in books for teachers #mathscpdchat

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dannytybrown @danieltybrown

Brent Davis 'A sound alternative' is very good, as is 'Being Alongside' by @AlfColes #mathscpdchat

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dannytybrown @danieltybrown

@PardoeMary Discipline of Noticing, not mathematical but, you know... #mathscpdchat



#mathscpdchat

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Sarah Lhermette @sarah\_marie893

This one I am going to have to put in my tool bag a for next year #NQT #mathscpdchat twitter.com/mathsedideas/s...

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Almost at the end now... Any other recommendations even for parents? I've used this...#mathscpdchat pic.twitter.com/5wTp256nGQ

MARTYN @MARTYNYEOUK · 3 MONTHS AGO



Mary Pardoe @PardoeMary

Secondary, mainly KS3 (possibly 4), but also there are unusual (but really effective) starting points that would be good in KS2. #mathscpdchat twitter.com/martynyeouk/st...



@martynyeouk @JoatStewart @JohnAllenPaulos @HeinemannPub @ProfSmudge Lovely little problems, not just to use with students, but moreover that made me think about how my own teaching could get students to think. #mathscpdchat

3 MONTHS AGO



#mathscpdchat twitter.com/teachmaths/sta...

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Martyn @martynyeouk

@teachmaths @robeastaway @mathscpdchat @mikeaskew26 Great to know! #mathscpdchat





Following this discussion, has anyone seen a book they want to get their hands on?



This is why I love my old books #mathscpdchat twitter.com/El\_Timbre/stat...

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MARY PARDOE @PARDOEMARY · 3 MONTHS AGO





Mary Pardoe @PardoeMary

Many thanks to Martyn @martynyeouk for great hosting, and to all for very varied ideas. #mathscpdchat Read all tomorrow at: ncetm.org.uk/resources/41729

💓 3 MONTHS AGO



dannytybrown @danieltybrown

Ah yes, thanks Rachel #mathscpdchat ps hi! twitter.com/DrRLofthouse/s...

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Craig Barton @mrbartonmaths

#Maths ROTY 4: Fractions Mastery is a superb lesson for looking at fractions in depth #mathscpdchat ow.ly/ZF0830gPCvd



**#mathscpdchat** on 16 January, when the topic will be: 'Teaching money management skills: is it the job of teachers? If so, how best to do it?' I look forward to seeing you there