

**#mixedattainmentmaths**  
**www.mixedattainmentmaths.com**  
**Saturday 16th June 2018**



## **Teaching and learning mathematics in mixed-attainment classrooms.**

**Ks2 - Ks4**

**Manchester Metropolitan University 10:00 – 16:15pm**

**Brooks Building Campus**

**53 Bonsall Street**

**Manchester**

**M15 6GX**

9.30 – 9.55	Registration open
10.00 – 10.15	Introduction
10.20 - 11.20	Workshop 1
11.30 – 12.30	Workshop 2
12.30 – 13.20	Lunch
13.20 – 14.20	Workshop 3
14.30 – 15.30	Workshop 4
15.30 – 16.15	Panel and Plenary

On the 16th June 2018 we are holding the fourth mixed attainment maths conference. This is a conference for teachers of mathematics from KS2 to KS4 who are keen to develop ways of working with mixed-attainment groups. Workshops will be organised by people who are currently teaching, or who have taught mathematics in mixed-attainment classrooms. The intention is to share practices through active participation regarding strategies, ideas and resources for teaching in mixed-attainment classrooms. The aim of those organising the conference is: To help form a community of teachers who share a common belief in social justice and the value of not separating children into groups according to some notion of their (fixed) 'ability.'



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### **Workshop 1 choices 10.20 - 11.20**

#### **Transitioning to mixed-attainment mathematics**

##### **Tom Francome**

Grouping pupils according to some notion of fixed 'ability' does not appear to be an effective strategy for raising attainment but remains steadfastly popular in the UK. This session will outline the whys and wherefores of transitioning to all attainment groups in mathematics and some of the practicalities about how the change happened in one department. We will discuss some of the outcomes, some of the barriers such as limited experience of mixed-attainment teaching and some of the positive benefits in relation to pupil and teacher beliefs and attitudes as well as looking at some examples of a sequence of lessons. Feel free to bring questions.

**Tom is a mathematics teacher and Lecturer in Secondary Mathematics at the University of Birmingham.**

**@TFrancome**

#### **Challenging inequity in mathematics classrooms KS2 to KS4**

##### **Tiago Carvalho, Alba Fejzo & Pete Wright**

This is a practical workshop based on ideas from a small-scale research project at Stoke Newington School (London) involving an academic researcher and two teacher researchers. By making teachers' pedagogical rationale more visible to learners, the project explores how to enable all students (particularly those from disadvantaged backgrounds) to make the most of opportunities provided by adopting progressive teaching approaches in mixed attainment mathematics classrooms.

**Tiago Carvalho (Stoke Newington School), Alba Fejzo (Stoke Newington School), Pete Wright (UCL Institute of Education)**

#### **Inquiry maths and mixed attainment classes KS2 to KS4**

##### **Emma Rouse**

Inquiry Maths is an exciting and creative model of teaching mathematics that has been used effectively in classrooms around the world. Devised and developed in mixed attainment classrooms, it encourages students to regulate their own activity while exploring a prompt. An Inquiry Maths lesson starts with students' questions and conjectures and might involve a class, for example, on diverse pathways of exploration or in seeking an explanation. The unity of purpose within an inquiry guarantees inclusiveness, cohesion and equity as all contributions add to the findings of the class. Participants at the workshop will experience the excitement, unpredictability and creativity of classroom inquiries.

**Emma Rouse is a Lead Practitioner of Mathematics at a school in Rainham, East London.**

**@Emmaths1618**

#### **Mixed Attainment Mathematics & Mastery**

##### **Elizabeth Bridgett**

Mathematics Mastery's vision is for all students to enjoy and succeed in maths regardless of their background. In this workshop we will look at how using a Concrete Pictorial Abstract approach can be used to both support and challenge secondary school students. We will be doing lots of maths during the session and we will consider how this approach can strengthen conceptual understanding and develop problem solving in all students.

**Elizabeth Bridgett • Secondary Development Lead**

**Mathematics Mastery**

**[www.mathematicsmastery.org](http://www.mathematicsmastery.org)**

#### **Fractions and Decimals for KS2 to KS3 – A multi-resource workshop**

##### **Mike Ollerton**

Mike's session will offer a range of tasks about Fractions and decimals for use in KS2 and KS3 classrooms. Each task will draw upon different types of manipulatives including Cuisenaire, dice, paper folding and if time allows a spot of dancing...

**Michael is a Freelance mathematics education consultant.**

**@MichaelOllerton**

**[www.mikeollerton.com](http://www.mikeollerton.com)**

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**Workshop 2 choices 11.30 - 12.30**

**Learning Mathematics with Origami KS2 to KS3**

**Sue Pope**

Paper-folding is an accessible and enjoyable way to develop mathematical understanding of a range of topics. As well as mathematics, it helps develop personal skills too.

**Sue was a member of the ATM General Council and worked at Manchester Metropolitan University as an Associate Head of the School of Teacher Education and Professional Development.**

**Practical approaches for teaching mixed attainment mathematics classes KS2 to KS4**

**Helen Hindle**

I often get asked, as a teacher of mixed-attainment mathematics classes, "How do you manage to ensure all students are both challenged and supported?" In this workshop, I will share examples of strategies and tasks I frequently use to seek to achieve these outcomes. I will also explain how I use Learning Journeys to support students to select tasks at an appropriate level of challenge.

**Helen is the leader of a mathematics department in Rainham, East London.**

**@helenhindle1**

**[www.growthmindsetmaths.com](http://www.growthmindsetmaths.com)**

**Asking Powerful Questions in the Mixed Attainment Classroom**

**Gareth Evans**

In this workshop I will show how I encourage discussion and reasoning through asking the right questions at the right time, together with low entry / high ceiling tasks.

**Gareth is a mathematics teacher in Tarleton, Preston.**

**@MrE\_Maths**

**[garethevansmaths.wordpress.com](http://garethevansmaths.wordpress.com)**

**Realising your students' potential through a Realistic Maths Education approach KS2 to KS4**

**Susan Hough**

The Realistic Maths Education (RME) approach helps students at all levels to move from contexts they can imagine, through models and strategies they can make sense of, to a formal mathematics, which consequently holds more meaning for them. In this session, we consider a variety of contexts and the multiple strategies that students use to work within them, focusing on how teachers can manage these in a mixed attainment classroom. We will also describe how our latest project (funded by the Education Endowment Foundation) aims to develop these approaches with Key Stage 3 students, and how interested schools can get involved.

**Sue Hough is a Senior Lecturer in Mathematics Education at Manchester Metropolitan University**

**@realisticmaths**

**Why teach in mixed attainment classes? Lessons from research KS2 to KS4**

**Jeremy Hodgen**

I will discuss why and how to teach in mixed attainment groups with a particular focus on research evidence. I will draw on the work and award-winning materials of the Best Practice in Grouping Students study.

**Jeremy is a Professor of Mathematics Education at the Institute of Education UCL**

**@jeremyhodgen**

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**Workshop 3 choices 13.20 – 14.20**

**Collaborative planning for mixed attainment classes KS2 to KS3**

**Sylvia Glazewska, Gill Munro & Anisah Hussain**

This workshop will be sharing the inclusive and collaborative approach taken to planning and delivering Year 7 and Year 8 mathematics lessons to mixed attainment classes. We will begin the workshop by sharing the journey of our faculty at Falinge Park High School in implementing mixed attainment teaching. You will then be invited to take part in a rich task (based on ATM resources), experiencing how a carefully planned task will support a learning environment where learning is not only accessible but encourages deep thinking for all learners.

**Sylvia Glazewska is Head of Mathematics at Falinge Park High School**  
**Gill Munro & Anisah Hussain are teachers of Mathematics at Falinge Park High School.**

**Challenging inequity in mathematics classrooms KS2 to KS4**

**Tiago Carvalho, Alba Fejzo & Pete Wright**

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**Developing self-regulation in Inquiry Maths classrooms**

**Andrew Blair**

This session is for teachers who have used Inquiry Maths prompts or attended an introductory session and want to find out more. It looks at how we can develop student agency in directing inquiry and how we can negotiate appropriate aims and pathways. We consider the central role played by the Regulatory Cards as a mechanism for developing self-regulation in all students.

**Andrew is the leader of a mathematics department in Camden. @inquirymaths**  
**[www.inquirymaths.org](http://www.inquirymaths.org)**

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**Elizabeth Bridgett • Secondary Development Lead**  
**Mathematics Mastery**  
**[www.mathematicsmastery.org](http://www.mathematicsmastery.org)**

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**Michael is a Freelance mathematics education consultant.**  
**@MichaelOllerton**  
**[www.mikeollerton.com](http://www.mikeollerton.com)**

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**Workshop 4 choices 14.30 – 15.30**

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**Sue Hough is a Senior Lecturer in Mathematics Education at Manchester Metropolitan University**

**@realisticmaths**

**Developing reasoning in the mixed attainment classroom**

**Tom Watson**

In this workshop I will discuss how I use open ended problems to develop reasoning with mixed attainment classes.

I will also share my experiences of teaching mixed attainment classes in my NQT year and how I use Variation Theory and minimally different questions with my mixed attainment classes.

**Tom Watson is a mathematics teacher at a secondary school in Rainham, East London.**

**@Thomwhatsun**

**Why teach in mixed attainment classes? Lessons from research KS2 to KS4**

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**Jeremy is a Professor of Mathematics Education at the Institute of Education UCL**

**@jeremyhodgen**

**15.30 – 16.15**

**Panel and Plenary – (details tbc)**