

# Does the Realistic Maths Education intervention improve pupil attainment in mathematics?

<b>Submission date</b> 31/05/2019	<b>Recruitment status</b> No longer recruiting	<input type="checkbox"/> Prospectively registered <input checked="" type="checkbox"/> Protocol
<b>Registration date</b> 01/07/2019	<b>Overall study status</b> Completed	<input checked="" type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 14/10/2022	<b>Condition category</b> Other	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

RME uses realistic contexts and a notion of progressive formalisation to help the mathematical development of pupils. It is internationally recognised, and materials based on RME are used in many countries.

The RME project focuses on Y7 and Y8 pupils, and offers specialist training for teachers which aims to:

1. Develop pupils' sense-making strategies and problem-solving abilities
2. Raise pupil attainment and engagement, including for pupil premium students
3. Support the development of a deep conceptual understanding
4. Support teachers to promote a more interactive classroom culture
5. Provide materials and guidance for use in both mixed and set groups

### Who can participate?

Pupils in the 2018/9 Year 7 cohort at participating schools. Mathematics teachers from these schools take part in the training. Non-selective secondary schools in England were eligible for recruitment into the trial.

### What does the study involve?

Teachers involved in the intervention receive training in how to use RME materials and develop their practice over the two years of the trial. Professional development focuses on both effective use of the curriculum materials, and on developing the underlying RME pedagogical principles combining off-site CPD days and in-school tasks. Participating teachers teach the pupils throughout the 2018/9 and 2019/20 academic years. In summer 2020, pupils will undertake a mathematics assessment in school, the results of which will be used to determine the impact of the intervention.

### What are the possible benefits and risks of participating?

The intervention has the potential to improve the mathematics attainment of participating pupils. There are no credible risks to participating pupils beyond those associated with normal classroom teaching.

Where is the study run from?

The intervention is delivered by Manchester Metropolitan University and the evaluation is led by Sheffield Hallam University. Teacher training takes place in six regional centres (119 schools). Teaching takes place during normal classroom lesson time.

When is the study starting and how long is it expected to run for?

Teaching will take place over two school years between autumn 2018 and summer 2020.

Who is funding the study?

The Education Endowment Foundation

Who is the main contact?

Sean Demack, Principal Investigator/Lead Statistician at Sheffield Institute of Education (s.demack@shu.ac.uk)

### **Study website**

<https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/realistic-maths-education/>

## **Contact information**

### **Type(s)**

Public

### **Contact name**

Dr Martin Culliney

### **ORCID ID**

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## **Additional identifiers**

### **EudraCT/CTIS number**

Nil known

### **IRAS number**

### **ClinicalTrials.gov number**

Nil known

### **Secondary identifying numbers**

N/A

## Study information

### Scientific Title

Evaluating the effects of the Realistic Maths Education intervention on the mathematics attainment for year 8 pupils in England: a randomised controlled trial

### Acronym

RME

### Study objectives

Does the RME intervention improve pupil attainment in mathematics over 2 years as measured by the GL Assessment Progress Test in Mathematics (PTM) for the intention to treat group compared to the control group, in general and specifically for FSM pupils?

### Ethics approval required

Old ethics approval format

### Ethics approval(s)

Approved 11/07/2018, Sheffield Hallam University Social Sciences and Humanities Faculty Research Ethics Committee (SSH-ResearchEthics@shu.ac.uk), ref: ER6803657.

### Study design

Two-arm, multisite four-level clustered randomised controlled trial

### Primary study design

Interventional

### Secondary study design

Cluster randomised trial

### Study setting(s)

School

### Study type(s)

Other

### Participant information sheet

<https://www.shu.ac.uk/~media/home/about-us/academic-departments/sioe/realistic-maths-evaluation-school-information-sheet.docx?la=en>

### Health condition(s) or problem(s) studied

Mathematics attainment

### Interventions

Intervention - teachers attend CPD training and teach their pupils using the principles covered in the CPD training during 2018/9 and 2019/20 academic years. Outcome assessment takes place in the summer 2020.

Control - business as usual (normal teaching). Outcome assessment takes place in the summer 2020.

A stratified randomisation approach was adopted that included controls for geographical hub region, whether a school was a middle or standard secondary school and whether a school currently had a policy of using within-school selection (setting/streaming) to sort pupils into maths classes in Y7 or not.

### **Intervention Type**

Other

### **Primary outcome measure**

Mathematical skills and knowledge are measured using the GL Progress Test in Mathematics at the end of Year 8 (summer 2020).

### **Secondary outcome measures**

N/A

### **Overall study start date**

01/01/2018

### **Completion date**

01/07/2021

## **Eligibility**

### **Key inclusion criteria**

1. Non-selective secondary schools in England.
2. Commit at least two maths teachers to the CPD training programme and associated teaching.
3. Teachers teaching Y7 pupils during 2018/9 and Y8 pupils during 2019/20.

### **Participant type(s)**

Other

### **Age group**

Other

### **Sex**

Both

### **Target number of participants**

8,142 pupils in ITT analysis; 23,196 pupils across Y8 cohorts in all participating schools.

### **Key exclusion criteria**

Selective schools.

### **Date of first enrolment**

01/03/2018

### **Date of final enrolment**

05/10/2018

# Locations

## Countries of recruitment

England

Northern Ireland

United Kingdom

## Study participating centre

**St Wilfrid's Catholic High School and Sixth Form College**

Pontefract

United Kingdom

WF7 6BD

## Study participating centre

**The Marvell College**

Kingston upon Hull

United Kingdom

HU9 4EE

## Study participating centre

**Malton School**

Malton

United Kingdom

YO17 7NH

## Study participating centre

**Belmont Community School**

Durham

United Kingdom

DH1 2QP

## Study participating centre

**Dr Thomlinson C of E Middle School**

Rothbury

United Kingdom

NE65 7RJ

**Study participating centre**

**Hope Academy**

Newton-le-Willows

United Kingdom

WA12 0AQ

**Study participating centre**

**Mount Saint Joseph High School**

Farnworth

United Kingdom

BL4 0HU

**Study participating centre**

**The Derby High School**

Bury

United Kingdom

BL9 9NH

**Study participating centre**

**St Monica's RC High School**

Manchester

United Kingdom

M25 1JH

**Study participating centre**

**Manchester Creative and Media Academy (changing to Co-op Academy North Manchester in September)**

Manchester

United Kingdom

M9 7SS

**Study participating centre**

**Blessed John Henry Newman Roman Catholic College**

Chadderton

United Kingdom

OL9 9QY

**Study participating centre**

**Matthew Moss High School**  
Rochdale  
United Kingdom  
OL11 3LU

**Study participating centre**  
**The Albion Academy**  
Salford  
United Kingdom  
M6 6QT

**Study participating centre**  
**Rayner Stephens High School**  
Dukinfield  
United Kingdom  
SK16 5BL

**Study participating centre**  
**Lostock College**  
Stretford  
United Kingdom  
M32 9PL

**Study participating centre**  
**St Thomas More Catholic School**  
Buxton  
United Kingdom  
SK17 6AF

**Study participating centre**  
**Bridgewater High School**  
Appleton  
United Kingdom  
WA4 5JL

**Study participating centre**

**Albany Academy**

Chorley  
United Kingdom  
PR7 3AY

**Study participating centre**

**Darwen Aldridge Community Academy**

Darwen  
United Kingdom  
BB3 3HD

**Study participating centre**

**The Catholic High School Chester**

Chester  
United Kingdom  
CH4 7HS

**Study participating centre**

**Furness Acadermy**

Barrow-in-Furness  
United Kingdom  
LA13 9BB

**Study participating centre**

**Ark Boulton Academy**

Birmingham  
United Kingdom  
B11 2QG

**Study participating centre**

**Hamstead Hall Academy**

Birmingham  
United Kingdom  
B20 1HL

**Study participating centre**



**West walsall e-act academy**

Walsall  
United Kingdom  
WS2 9UA

**Study participating centre**

**Smestow**

Wolverhampton  
United Kingdom  
WV3 8HU

**Study participating centre**

**Fairfield High School**

Bristol  
United Kingdom  
BS7 9NL

**Study participating centre**

**Madeley School**

Madeley  
United Kingdom  
CW3 9JJ

**Study participating centre**

**James Bateman Junior High School**

Knypersley  
United Kingdom  
ST8 7AT

**Study participating centre**

**St Margaret Ward Catholic Academy**

Stoke-on-Trent  
United Kingdom  
ST6 6LZ

**Study participating centre**

**Whitecross Hereford High School**  
Hereford  
United Kingdom  
HR4 0RN

**Study participating centre**  
**Alsager School**  
Alsager  
United Kingdom  
ST7 2HR

**Study participating centre**  
**Nicholas Chamberlaine School**  
Bedworth  
United Kingdom  
CV12 9EA

**Study participating centre**  
**Shirebrook Academy**  
Shirebrook  
United Kingdom  
NG20 8QF

**Study participating centre**  
**Lees Brook Community School**  
Derby  
United Kingdom  
DE21 4QX

**Study participating centre**  
**Wreake Valley Academy**  
Syston  
United Kingdom  
LE7 1LY

**Study participating centre**

**The Priory Witham Academy**  
Lincoln  
United Kingdom  
LN6 7DT

**Study participating centre**  
**The Priory Ruskin Academy**  
Grantham  
United Kingdom  
NG31 8ED

**Study participating centre**  
**Bishop Justus C of E**  
Bromley  
United Kingdom  
BR2 8HZ

**Study participating centre**  
**Mayfield School**  
Dagenham  
United Kingdom  
RM8 1XE

**Study participating centre**  
**Stanley Park High**  
Carshalton  
United Kingdom  
SM5 4NS

**Study participating centre**  
**Highams Park School**  
London  
United Kingdom  
E4 9PJ

**Study participating centre**

**Chiltern Academy**

Luton

United Kingdom

LU2 0EZ

**Study participating centre**

**Shenfield High School**

Brentwood

United Kingdom

CM15 8RY

**Study participating centre**

**The Sele School**

Hertford

United Kingdom

SG14 2DG

**Study participating centre**

**Tring School**

Tring

United Kingdom

HP23 5JD

**Study participating centre**

**Kingsford Community School**

London

United Kingdom

E6 5JG

**Study participating centre**

**Abbeywood Community School**

Stoke Gifford

United Kingdom

BS34 8SF

**Study participating centre**

**Allenbourn Middle School**  
Wimborne Minster  
United Kingdom  
BH21 1PL

**Study participating centre**  
**St. Michael's Middle School**  
Wimborne  
United Kingdom  
BH217AB

**Study participating centre**  
**Blatchington Mill School**  
Hove  
United Kingdom  
BN3 7BW

**Study participating centre**  
**Noadswood**  
Dibden Purlieu  
United Kingdom  
SO45 4ZF

**Study participating centre**  
**The Vyne Community School**  
Basingstoke  
United Kingdom  
RG21 5PB

**Study participating centre**  
**Mayfield School**  
Portsmouth  
United Kingdom  
PO2 0RH

**Study participating centre**

**Pool Academy**  
Pool  
United Kingdom  
TR15 3PZ

**Study participating centre**  
**The Weald School**  
Billingshurst  
United Kingdom  
RH14 9RY

**Study participating centre**  
**Castleford Academy**  
Castleford  
United Kingdom  
WF10 4JQ

**Study participating centre**  
**Lord Lawson of Beamish Academy**  
Birtley  
United Kingdom  
DH3 2LP

**Study participating centre**  
**Wellfield Middle School**  
South Wellfield  
United Kingdom  
NE25 9QW

**Study participating centre**  
**Bede Academy**  
Blyth  
United Kingdom  
NE24 2SY

**Study participating centre**

**North Liverpool Academy**

Liverpool  
United Kingdom  
L5 0SQ

**Study participating centre**

**Abraham Moss Community School**

Manchester  
United Kingdom  
M8 5UF

**Study participating centre**

**St Peters High School**

Manchester  
United Kingdom  
M12 4WB

**Study participating centre**

**The Hathershaw College**

Oldham  
United Kingdom  
OL8 3EP

**Study participating centre**

**Co op Academy Swinton**

Manchester  
United Kingdom  
M27 6JU

**Study participating centre**

**Priestnall School**

Stockport  
United Kingdom  
SK4 3HP

**Study participating centre**

**The Kingsway School**  
Cheadle  
United Kingdom  
SK8 1NP

**Study participating centre**  
**Longendale High School**  
Hollingworth  
United Kingdom  
SK14 8LW

**Study participating centre**  
**Stretford High Schhol**  
Stretford  
United Kingdom  
M32 0XA

**Study participating centre**  
**Great Sankey High School**  
Great Sankey  
United Kingdom  
WA5 3AA

**Study participating centre**  
**Fleetwood High School**  
Fleetwood  
United Kingdom  
FY7 8HE

**Study participating centre**  
**Darwen Vale High School**  
Darwen  
United Kingdom  
BB3 0AL

**Study participating centre**



**Sandbach High School and Sixth Form College**

Sandbach  
United Kingdom  
CW11 3NT

**Study participating centre**

**Bishops' Blue Coat CE High School**

Great Boughton  
United Kingdom  
CH3 5XF

**Study participating centre**

**Settlebeck School**

Sedbergh  
United Kingdom  
LA105AL

**Study participating centre**

**Netherhall school**

Maryport  
United Kingdom  
CA15 6NT

**Study participating centre**

**St. Joseph's Catholic High School**

Workington  
United Kingdom  
CA14 3EE

**Study participating centre**

**Swanshurst School**

Birmingham  
United Kingdom  
B13 0TW

**Study participating centre**

**Finham Park School**

Coventry  
United Kingdom  
CV3 6EA

**Study participating centre**

**Wednesfield High Specialist Engineering Academy**

Wolverhampton  
United Kingdom  
WV11 3ES

**Study participating centre**

**Ormiston NEW Academy**

Wolverhampton  
United Kingdom  
WV10 6SE

**Study participating centre**

**Landau Forte Academy QEMS**

Tamworth  
United Kingdom  
B79 8AH

**Study participating centre**

**Birches Head Academy**

Stoke-on-Trent  
United Kingdom  
ST28DD

**Study participating centre**

**Ormiston Horizon Academy**

Stoke-on-Trent  
United Kingdom  
ST6 6JZ

**Study participating centre**

**Holy Trinity Academy**

Priorslee  
United Kingdom  
TF29SF

**Study participating centre**

**Rugby Free Secondary**

Rugby  
United Kingdom  
CV22 5PE

**Study participating centre**

**Humphrey Perkins School**

Barrow upon Soar  
United Kingdom  
LE12 8JU

**Study participating centre**

**Wigston Academy**

Wigston  
United Kingdom  
LE18 2DT

**Study participating centre**

**Paget High School**

Burton upon Trent  
United Kingdom  
DE14 3DR

**Study participating centre**

**All Saints' Catholic Voluntary Academy**

Mansfield  
United Kingdom  
NG19 6BW

**Study participating centre**

**The Deepings School**

United Kingdom  
PE6 8NF

**Study participating centre**  
**Kingsthorpe College**  
Northampton  
United Kingdom  
NN2 7HR

**Study participating centre**  
**Queen Elizabeth's Girls' School**  
Barnet  
United Kingdom  
EN5 5RR

**Study participating centre**  
**Nower Hill High School**  
Pinner  
United Kingdom  
HA5 5RP

**Study participating centre**  
**Marshalls Park Academy**  
Romford  
United Kingdom  
RM1 4EH

**Study participating centre**  
**Cheam High School**  
Sutton  
United Kingdom  
SM3 8PW

**Study participating centre**  
**Denbigh High School**  
Luton  
United Kingdom  
LU3 1HE

**Study participating centre**  
**The Wren School**  
Reading  
United Kingdom  
RG30 2BB

**Study participating centre**  
**Hadlow Rural Community School**  
Hadlow  
United Kingdom  
TN11 0AU

**Study participating centre**  
**Astor College**  
Dover  
United Kingdom  
CT17 0AS

**Study participating centre**  
**Aylesford School**  
Aylesford  
United Kingdom  
ME20 7JU

**Study participating centre**  
**Emmanuel Middle School**  
Castlewellan  
United Kingdom  
BT31 6JF

**Study participating centre**  
**Dorchester Middle School**  
Dorchester  
United Kingdom  
DT1 2HS

**Study participating centre**  
**Twynham School**  
Christchurch

United Kingdom  
BH231JF

**Study participating centre**  
**St Edwards RCCE School**  
Poole  
United Kingdom  
BH15 3HS

**Study participating centre**  
**The Romsey School**  
Romsey  
United Kingdom  
SO51 8ZB

**Study participating centre**  
**Kings' School**  
Winchester  
United Kingdom  
SO22 5PN

**Study participating centre**  
**Trafalgar School**  
Portsmouth  
United Kingdom  
PO2 9RJ

**Study participating centre**  
**The Stonehenge School**  
Amesbury  
United Kingdom  
SP4 7ND

**Study participating centre**  
**Durrington High School**  
Worthing  
United Kingdom  
BN13 1JX

**Study participating centre**  
**Lockyer's Middle School**  
Corfe Mullen  
United Kingdom  
BH21 3HQ

**Study participating centre**  
**Leeds City Academy**  
Leeds  
United Kingdom  
LS6 2LG

**Study participating centre**  
**Leeds West Academy**  
Leeds  
United Kingdom  
LS131DQ

**Study participating centre**  
**Leeds East Academy**  
Leeds  
United Kingdom  
LS14 6TY

**Study participating centre**  
**Haberdashers' Aske's Hatcham College**  
London  
United Kingdom  
SE14 5SF

**Study participating centre**  
**Haberdashers' Aske's Knights Academy**  
Bromley  
United Kingdom  
BR1 5EB

**Study participating centre**

**Haberdashers' Aske's Crayford Academy**

Dartford  
United Kingdom  
DA1 4RS

**Study participating centre****Harris Academy Rainham**

Rainham  
United Kingdom  
RM13 9XD

**Study participating centre****Harris Academy Chafford Hundred**

Chafford Hundred  
United Kingdom  
RM16 6SA

**Study participating centre****The Hart School**

Rugeley  
United Kingdom  
WS15 2UE

## **Sponsor information**

**Organisation**

Education Endowment Foundation

**Sponsor details**

9th floor  
Millbank Tower  
21-24 Millbank  
London  
United Kingdom  
SW1P 4QP  
+44 207 802 1676  
[info@eefoundation.org.uk](mailto:info@eefoundation.org.uk)

**Sponsor type**

Charity



**Website**

<https://educationendowmentfoundation.org.uk>

**ROR**

<https://ror.org/03bhd6288>

## **Funder(s)**

**Funder type**

Charity

**Funder Name**

Education Endowment Foundation

**Alternative Name(s)**

EducEndowFoundn, Education Endowment Foundation | London, EEF

**Funding Body Type**

Private sector organisation

**Funding Body Subtype**

Trusts, charities, foundations (both public and private)

**Location**

United Kingdom

## **Results and Publications**

**Publication and dissemination plan**

The first publication will be the evaluation report, published by the funder (Education Endowment Foundation). Subsequently the evaluation and development teams are likely to pursue academic outputs such as journal articles and conference papers.

**Intention to publish date**

01/11/2022

**Individual participant data (IPD) sharing plan**

After the project ends, data will be transferred to the EEF data archive, which is only accessible by researchers commissioned by EEF to conduct meta-analysis of EEF data. Participants are informed of archiving requirements at the start of the evaluation.

**IPD sharing plan summary**

Not expected to be made available

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Protocol file</a>	version V1	28/05/2019	01/07/2019	No	No
<a href="#">Funder report results</a>		22/09/2022	14/10/2022	No	No
<a href="#">Statistical Analysis Plan</a>		04/06/2021	14/10/2022	No	No