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

Submission date 31/05/2019	**Recruitment status** No longer recruiting	[_] Prospectively registered [X] Protocol
Registration date 01/07/2019	**Overall study status** Completed	[X] Statistical analysis plan [X] Results
Last Edited 14/10/2022	**Condition category** Other	[_] 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)

Contact information

Type(s)
Public

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Additional identifiers

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.

Primary study design
Interventional

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

Study type(s)
Other

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

Key secondary outcome(s)
N/A

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

Healthy volunteers allowed
No

Age group
Other

Sex
All

Key exclusion criteria
Selective schools.

Date of first enrolment
01/03/2018

Date of final enrolment
05/10/2018

Locations

Countries of recruitment
United Kingdom

England

Northern Ireland

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 Academy
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 OEZ

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

ROR
https://ror.org/03bhd6288

Funder(s)

Funder type
Charity

Funder Name
Education Endowment Foundation

Alternative Name(s)
EducEndowFoundn, The Education Endowment Foundation (EEF), 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

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?
Funder report results		22/09/2022	14/10/2022	No	No
Participant information sheet	Participant information sheet version V1	11/11/2025	11/11/2025	No	Yes
Protocol file		28/05/2019	01/07/2019	No	No

Statistical Analysis Plan	Study website	04/06/2021	14/10/2022	No	No
Study website		11/11/2025	11/11/2025	No	Yes