

Catch Up® Numeracy Support: An Education Endowment Foundation Effectiveness Trial

Submission date 06/09/2016	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 13/09/2016	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 28/10/2020	Condition category Other	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Catch Up Numeracy is a research-based intervention (program) targeted at children who are not performing very well mathematics. The intervention is guided by a componential approach to numeracy, that is breaking things down into separate components or steps, and is designed to address individual children's particular difficulties and weaknesses. Catch Up is aimed at children aged 6-14 who are struggling with numeracy, targeting a relatively large group: the lowest achieving 15-20% of children who are "at risk of less severe but nevertheless persistent numeracy difficulties". It is looking at whether the program helps to improve children's performance in mathematics.

Who can participate?

Primary school children (Years 4 and 5) from 150 schools in the UK.

What does the study involve?

Participating schools are randomly allocated to one of two groups. Children who attend schools in group 1 (intervention group) attend the program which involves them having two 15 minute sessions per week developed to help them improve their mathematics skills and how they feel about the subject. The program breaks numeracy down into ten different parts (components) and assesses each child's ability on each of these parts. Instruction is then delivered according to the child's specific weaknesses. The sessions are run for up to 30 minutes. Those in group 2 (control group) receive support based on the Education Endowment Foundation teaching assistant guidance. All children from both groups are then assessed on how they do in a mathematics test and also how they feel about mathematics (using a questionnaire).

What are the possible benefits and risks of participating?

Children in both the intervention and active control groups receive targeted support with the potential to improve their performance in and attitudes to mathematics. There should be no risks here since it is normal primary school best practice.

Where is the study run from?

150 schools based in Northumberland and Durham in the North East, Yorkshire, and Peterborough in Cambridgeshire.

When is the study starting and how long is it expected to run for?
July 2015 to November 2017

Who is funding the study?
Education Endowment Foundation

Who is the main contact?
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Additional identifiers

Protocol serial number
SoE RO: 988, pFACT: 42646

Study information

Scientific Title
Impact of Catch Up® Numeracy Support on mathematics attainment for Year 3 and Year 4 school children with numeracy difficulties against an optimal business-as-usual control: A cluster randomised controlled trial

Acronym
Catch Up®

Study objectives

The evaluation will address the following primary research question:

1. Does Catch Up Numeracy have significant effect on children's attainment in mathematics when compared to an optimal business as usual active control?

In addition, the evaluation will address the following secondary research questions:

- 2 Does Catch Up Numeracy have significant effect on children's attitudes towards mathematics when compared to an optimal business as usual active control?
3. Are the effects on attainment and attitudes different for children eligible for free school meals?
4. Are the effects on attainment and attitudes different for girls and boys?
5. To what extent are any effects on attainment and attitudes mediated by the treatment time?

In the process evaluation, we will address the following research questions:

6. To what extent do schools, coordinators and teaching assistants perceive the Catch Up Numeracy professional development for teaching assistants and coordinators to be effective?
7. To what extent do the Catch Up Numeracy intervention schools, teaching assistants and coordinators adhere to the guidance and materials?
 - 7.1. How variable is the quality of implementation in the intervention schools?
 - 7.2. To what extent are the Catch Up Numeracy resources sufficient, appropriate and easy to access, and is the assessment guidance sufficiently flexible and child-friendly?
 - 7.3. What school and contextual factors afford or constrain the quality of implementation?
 - 7.4. In what ways do schools manage and support the teaching assistants?
 - 7.5. To what extent, and how, do schools enable dialogue to take place between the teaching assistants and the relevant class teachers?
8. Are children assessed for eligibility on a termly basis in both intervention and control schools and do children judged to have reached an age appropriate level of numeracy 'roll off' the intervention?
9. What does usual practice in control schools look like?
 - 9.1. How, and to what extent, do the active control schools implement the Education Endowment Foundation's 'Making best use of teaching assistants' guidance?
 - 9.2. To what extent does the half-day planning session enable schools to implement the guidance?

Ethics approval required

Old ethics approval format

Ethics approval(s)

University of Nottingham, School of Education Staff Research Ethics Committee, 31/03/2016, ref: 2016/989/CD

Study design

The study is an interventional design where participants are clustered into 150 schools divided equally between two arms (intervention vs. optimal business-as-usual control) recruited from three counties - Yorkshire, North East and Cambridgeshire.

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Children underachieving in numeracy between Key Stage 1 and Key Stage 2 in England.

Interventions

Children are randomised at the school level and receive one of the following:

1. Catch Up® Numeracy: is a one-to-one intervention for learners who are struggling with numeracy that aims to improve attainment in numeracy and attitudes to mathematics. It consists of two 15-minute sessions per week per pupil which are delivered by two teaching assistants
2. Active control: entails the delivery of equivalent time support based on the Education Endowment Foundation teaching assistant guidance

Catch Up@ Numeracy consists of two 15 minute lessons per week for up to 30 weeks, usually delivered by teaching assistants (TAs). To prepare them to deliver the intervention, TAs are supplied with detailed lesson plans and receive four half-day training sessions. The intervention breaks numeracy down into ten components, assesses children's ability on each, and targets subsequent instruction so that the tutor always addresses the exact area of weakness.

Intervention Type

Other

Primary outcome(s)

Pupil performance in maths, measured using the Progress Test in Mathematics (GL Assessment) post-intervention test, in October/November 2017, with the pre-intervention test carried out in June 2016.

Key secondary outcome(s)

Attitudes and anxiety to mathematics, measured by a simplified version of the Mathematics Attitudes and Anxiety Questionnaire (Thomas and Dowker, 2000) delivered post-intervention only

Completion date

30/11/2017

Eligibility

Key inclusion criteria

Children who are in the bottom 5-20% of maths achievement and ideally currently enrolled in years 3 and 4 (aged 7 and 8), although consideration will also be given to children currently enrolled in year 2.

Participant type(s)

All

Healthy volunteers allowed

No

Age group

Child

Lower age limit

7 years

Upper age limit

8 years

Sex

All

Total final enrolment

1811

Key exclusion criteria

Children judged to be outside the mathematics achievement band of 5-20% and attending schools with prior experience of any other EEF numeracy research project and must not have relevant prior involvement or experience with using the Catch Up® Literacy or Catch Up® Numeracy interventions.

Date of first enrolment

01/12/2015

Date of final enrolment

31/03/2016

Locations

Countries of recruitment

United Kingdom

Study participating centre

Primary schools in Yorkshire (target 100)

United Kingdom

N/A

Study participating centre

Primary schools in Durham (target 25)

United Kingdom

N/A

Study participating centre

Primary schools in Peterborough (target 25)

United Kingdom

N/A

Study participating centre

Primary schools in Havering (target 16)

London

United Kingdom

N/A

Sponsor information

Organisation

Education Endowment Foundation

ROR

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

Funder(s)

Funder type

Government

Funder Name

Education Endowment Foundation

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Funder report results	results		28/10/2020	No	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes