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Focus for Teacher Assessment of Primary Science (Focus4TAPS) trial: determining the impact of teacher training and resources on pupils' science attainment and attitudes

Submission date
17/11/2020

Recruitment status
No longer recruiting

Registration date
11/12/2020

Overall study status
Completed

Last Edited
03/11/2026

Condition category
Other

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
The Focus for Teacher Assessment of Primary Science (Focus4TAPS) intervention operationalises assessment for learning applied to Working Scientifically at primary school, including teachers (and pupils) gaining enhanced understanding of progression in Working Scientifically, applying formative assessment strategies, and adapting levels of support and challenge during lessons across an academic year.

Who can participate?
Year 5 pupils in the classes of teachers who have had the training.

What does the study involve?
Schools are randomly allocated to one of two groups: treatment or control group.
Within the treatment group, teachers attend CPD days and will be provided with example plans and activities for use in their classrooms. Teachers select five TAPS plans from the bank of 40+, to carry out as gap tasks during the year, using largely everyday materials which will be found in school. Teachers will be supported through the TAPS training and resources to select a focus for teaching, learning and assessment for each of their practical science lessons. They will use their new understanding of progression in Working Scientifically and new formative assessment strategies to adapt the level of support and challenge during subsequent lessons. By focusing on a different element of Working Scientifically each lesson, they consider the full breadth of enquiry skills across the year.
The control group will continue as if they were not participating in the study.
The trial originally began in the academic year 2019/2020, however the trial was paused in March 2020 because of the COVID 19 pandemic. The trial resumed from September 2020 for the academic year 2020/2021, with the same schools but with a new cohort of Year 5 students. This therefore meant that teachers required training again, the sessions were conducted online with some training to be conducted offline in teachers own time. The training followed the original format of having access to training in each term.

What are the possible benefits and risks of participating?
Ensuring that teachers and pupils have a shared understanding of learning aims and criteria for success, providing feedback to pupils, and more generally fostering assessment for learning may plausibly enhance attainment although it remains possible that any observed results may vary. Concurrently, the focus on broadly enhancing the teaching of Working Scientifically (inherently involving practical work) may help address the need for support within this area, and this may be (more generally) also enjoyed and appreciated by pupils.
Risks, other than missing out on a potentially beneficial programme if placed in the control group, are minimal.

Where is the study run from?
Focus4TAPS is delivered by class teachers who attend CPD days. There will be two trainers for each region: Dr Sarah Earle from Bath Spa University and one other experienced TAPS practitioner. A senior school leader will be invited to attend the introductory session, so that they understand the trial and can enable the attending teachers to carry out the intervention.

When is the study starting and how long is it expected to run for?
August 2018 to September 2022.
The trial recruited from December 2018 to April 2019; after the pause due to the COVID 19 pandemic, schools affirmed their engagement over the summer of 2020.
The trial started in the academic year beginning September 2019 but was paused due to COVID 19. The trial then started again in the academic year beginning September 2020 and will continue for one academic year.

Who is funding the study?
The Education Endowment Foundation (UK)

Who is the main contact?
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Contact information

Type(s)
Scientific

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Additional identifiers

Study information

Scientific Title
Focus for Teacher Assessment of Primary Science

Acronym
Focus4TAPS

Study objectives
Focus4TAPS will improve pupils' science attainment and attitudes towards science.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved on 29/11/2018 UCL Institute of Education Research Ethics Committee (UCL Institute of Education, University College London, 20 Bedford Way, London, WC1H 0AL, UK; no telephone number provided; ioe.researchethics@ucl.ac.uk), reference REC1146

Primary study design
Interventional

Study design
Interventional school-level cluster randomized controlled trial

Study type(s)
Quality of life

Health condition(s) or problem(s) studied
Pupils' science attainment and attitudes towards science

Interventions
The participants (school pupils) are not blinded, but the outcome measurement is. The intervention applies a school-level randomisation approach, via stratified randomisation (using geographic regions as strata). Random allocation into the intervention and the control group is

on a 1:1 basis within each geographic region. Stratified randomisation is necessary (rather than simple randomisation) due to the intervention training being delivered to (regional) groups of schools.

Treatment: Teachers attended CPD days in the academic year 2019/2020 and were provided with example plans and activities for use in their classrooms. They will be given more training with the re-start of the trial in each term. Teachers select five TAPS plans from the bank of 40+, to carry out as gap tasks during the year, using largely everyday materials which will be found in school.

Control: Business as usual.

Intervention Type
Behavioural

Primary outcome(s)
Science attainment, measured towards the end of academic Year 5 using an adapted version of the Thinking, Doing, Talking Science (TDTS) test.

At the time of the writing of the proposal for this trial, the EEF commissioned a piece of work for an external team to compare the TDTS instrument to the current national curriculum to assess the extent to which it corresponded to the latest programmes of study. The conclusion was that there is a poor match between the current version of the TDTS test and the current national curriculum. Thus, while the preferred primary outcome measure continues to be the TDTS test, this will rely in part on any adaptations to the test being externally tested (which are underway at the time of writing this statistical analysis plan), and for these to show good psychometric properties. In the case that there are poor psychometric properties, the evaluation team will use another measure for the primary outcome of this trial. This will be the GL Assessment Progress Test in Science (PTS).

Key secondary outcome(s)
Science attitudes measured through questionnaire responses collected towards the end of academic Year 5.

Completion date
30/09/2022

Eligibility

Key inclusion criteria
Schools will be eligible for the intervention if:
1. The school has children in Year 5 during the 2020-2021 academic year
2. The school has not taken part in the Thinking Doing Talking Science trial, the Primary Science Quality Mark (from 2017 onwards), or the TAPS project

Participant type(s)
Other

Healthy volunteers allowed
No

Age group
Child

Sex
All

Total final enrolment
2882

Key exclusion criteria
Parents had the opportunity to choose to opt their children out of the trial; such children will be excluded from all analysis.

Date of first enrolment
01/12/2018

Date of final enrolment
30/04/2019

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
UCL Institute of Education
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20 Bedford Way
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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
The datasets generated during and/or analysed during the current study will be stored in a non-publically available repository
Data collected as part of EEF-funded evaluations are archived in order to estimate the long-term impact of the interventions, to better understand variation in children's outcomes across evaluations, and to improve the methodological approaches we use to evaluate this impact. The EEF data archive is managed by FFT Education (FFT). At the end of an evaluation, the independent evaluator submits the data directly to FFT via a secure portal, for storing in a UK environment compliant with the Government's 14 Cloud Security Principles.

IPD sharing plan summary
Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Funder report results		01/12/2022	03/11/2026	No	No
Participant information sheet		11/11/2025	11/11/2025	No	Yes
Study website		11/11/2025	11/11/2025	No	Yes