

STEPPING STONES **by Northumbria University**

Overview

Northumbria University are delighted to be partnering with the Education Endowment Foundation (EEF) and Durham University to evaluate 'Stepping Stones': an innovative 15-week programme aiming to improve Y2 pupils' metacognition, problem solving and reasoning in maths.

The team at Northumbria University are led by Dr Kirstin Mulholland and William Gray, both of whom share a passion for maths, and have considerable experience of supporting schools locally and nationally to enhance teaching and learning and improve outcomes for pupils.

The evaluation will assess how schools use the 'Stepping Stones' programme and the influence it has on teachers and pupils in Year 2. For participating schools, 'Stepping Stones' programme materials and training will be provided free of charge, making this an exciting opportunity for both staff and pupils.

What does the programme involve?

Developing problem solving skills in maths helps prepare pupils for future success. One way we can do this is by developing metacognition, helping pupils to plan, monitor and evaluate their learning with growing independence.

Research shows that metacognition and self-regulated learning can significantly improve children's learning outcomes. However, pupils from disadvantaged backgrounds are less likely to use metacognitive strategies independently without explicit teaching. 'Stepping Stones' is an evidence-informed programme designed to help teachers explicitly teach these strategies through problem solving and reasoning, with the goal of raising pupil attainment.

The programme uses the visual metaphor of 'Stepping Stones' to help teachers and pupils focus on the learning process itself. It introduces metacognitive approaches into maths teaching through specific strategies, including metacognitive talk models such as 'Think Aloud' and structured 'debrief' sessions. These techniques support pupils to plan, monitor and evaluate their learning. Worked examples are also used to encourage pupils to critique different approaches to learning whilst effectively managing their cognitive load.

'Stepping Stones' is designed to complement your daily maths lesson, delivered in 15–20-minute sessions three times per week over a 15-week period. The programme provides comprehensive materials, including detailed learning resources, alongside professional development to support teachers' understanding of the approach. Teachers will participate in three full-day face-to-face training sessions between November 2026 and March 2027. These sessions will cover strategies for promoting metacognitive talk in Year 2 classrooms, as well as programme-specific guidance to ensure teachers have everything they need to implement 'Stepping Stones' confidently in their own settings.

What are the benefits of participating?

Schools who sign up for the pilot will receive all 'Stepping Stones' planning, resources and supporting materials for Year 2 free of charge. This includes:

- 3 full days of training for Y2 teachers
- Programme materials and resources for weeks 1-7 of the 'Stepping Stones' programme (including full session slides and teacher scripts).
- Faded programme materials for weeks 8-15 to support Y2 teachers to plan 'Stepping Stones' sessions tailored to their own class. Teachers will also receive dedicated time to undertake this planning during programme training days, with the support of the Northumbria University team.

By taking part in the pilot study, participating schools are helping to advance knowledge on what works well in maths and metacognition education in England. The final evaluation report will be publicly accessible on the EEF website following the completion of the project. All participating schools will also receive a copy of this report.

Eligibility

We are looking for 15 schools to take part in the pilot, selected using the following criteria:

- Have at least one Year 2 class (or mixed age Year 2 classes combining no more than two different year groups – e.g., mixed Year 2/3 class).
- Located within the Northeast of England (Darlington, Durham, Gateshead, Hartlepool, Middlesbrough, Newcastle-upon-Tyne, Northumberland, North Tyneside, Redcar and Cleveland, South Tyneside, Stockton and Sunderland).
- Able to release participating Year 2 teachers to attend 3 full-day face-to-face programme training sessions.
- Able to ring-fence 3 x 15-20 mins sessions per week to deliver 'Stepping Stones' in at least one Year 2 class for the duration of the 15-week programme. These sessions should take place in addition to the daily maths lesson – e.g., in a morning maths meeting.
- Willing to engage in pilot evaluation activities, including completing surveys and participating in interviews about experiences of the 'Stepping Stones' programme and trialling pupil assessments.
- Schools must not be participating in any other EEF trials relating to Year 2 maths, or running any other metacognition or mathematical problem solving and reasoning interventions.

Who is running the project?

The 'Stepping Stones' programme has been designed by Dr Kirstin Mulholland and William Gray, drawing upon their understanding of research evidence relating to metacognition, mathematical problem solving, and teacher professional development.

Both Kirstin and William are experienced primary school teachers and leaders, and have used the approaches embedded in this programme in their own classroom teaching. Kirstin has also previously worked with the Education Endowment Foundation to produce guidance, training and resources for maths, metacognition and teacher professional development, several of which have been incorporated into the 'Stepping Stones' programme.

A team at Durham University, led by Vic Menzies and Dr Linda (Yuqian) Wang, will be independently evaluating the 'Stepping Stones' project. Vic and the team have evaluated several previous programmes for the Education Endowment Foundation, including the Maths Champions programme, and the EasyPeasy app.

The project is funded by the Education Endowment Foundation.

How does the pilot evaluation work?

The independent evaluation will be done by the Durham University team with the purpose of investigating the potential of the 'Stepping Stones' programme. It will specifically investigate whether the 'Stepping Stones' programme and its fading approach to professional development for teachers:

1. leads to changes in teachers' understanding of, and confidence in, planning and teaching metacognitive strategies for mathematical problem solving and reasoning.
2. can be delivered using an approach that is feasible and acceptable for schools, staff and children.
3. is ready to be tested at scale for wider impact.

Staff from all participating schools are expected to complete online evaluation surveys and interviews.

Ten schools will also be selected for additional evaluation activities:

- In five schools, teachers will be asked to trial newly developed meta-cognition assessments with a sample of up to 10 Year 2 children towards the end of the project.
- Another five schools will be selected for in-person visits by the Durham University team, involving observations of three Stepping Stones sessions, group discussion with Year 2 pupils taking part and individual interviews with senior leaders and Year 2 teachers.

These ten schools will receive an incentive of £300 in appreciation of the additional time required to participate in these activities.

The full requirements of the evaluation are set out in the Memorandum of Understanding (MoU).

Are there any costs involved?

There are no costs associated with this programme – the ‘Stepping Stones’ programme and all training and resources are being offered free of charge to those schools participating in this pilot. However, schools will need to ensure that at least one Year 2 teacher attends three full-day face-to-face training sessions (November 2026, January 2027, February 2027).

How will data be used?

All data collected as part of the pilot evaluation will be treated with the strictest confidence by Durham University and Northumbria University in line with the requirements of UK GDPR and the Data Protection Act 2018.

Durham University and Northumbria University will both provide a privacy notice explaining the full detail of what data will be used for the evaluation, how it will be used, and why. This privacy notice will be shared with all participants, and with your school before you sign a Memorandum of Understanding committing to take part in the pilot.

Findings from the evaluation will be published in a report on the EEF website and used by the team at Northumbria University to inform programme updates. No names of schools or other identifiable information will be reported.

What is the timeline for this project?

What happens after a school/setting expresses an interest?	The team at Northumbria University will be in touch within 3 working days to provide further information about next steps.
When will the programme be delivered?	November 2026-May 2027
When will evaluation activities take place?	Throughout programme delivery period with final surveys in May/June 2027 and a follow up teacher interview in September 2027.
When will the evaluation results be published?	Summer term 2028

Interested in participating?

- **For more information** about ‘Stepping Stones’ – including how to register for one of our upcoming webinars - please visit the programme website at [Stepping Stones - EVIE](#)
- **To ask a question about this programme**, please access the [Frequently Asked Questions](#) document or email the project lead: kirstin.mulholland@northumbria.ac.uk
- **To register your interest** please complete the following [Expression of Interest form](#)
- **To ask a question about the pilot evaluation**, please contact the evaluation team at Durham University steppingstones.evaluation@durham.ac.uk