

## **Executive Function Research Study 2023/4**

### **Inhibitory Control in Mathematics**

#### **Background:**

It has often been suggested that inhibitory control is needed when we select appropriate mathematical strategies. Children might have a default, or automatic, strategy to use in a particular situation. If we want children to stop, take notice and consider alternative strategies, then they need to use inhibitory control to resist applying the default strategy. We are interested in finding out whether we can encourage children to exert their inhibitory control and whether this will allow them to generate a wider range of strategies and select the most appropriate.

This area of focus has arisen out of previous work undertaken with schools in the South West where it was observed that learners from 7 to 15 were relying on default strategies when faced with problems involving calculation and algebraic relationships.

#### **Research study design:**

This co-designed study brings together educators and researchers. It is part of exploring how we bridge the divide between practice and research and how learning from practice can lead to research. Teachers will be active participants in the research; this will include making decisions as part of the design process.

The study will be supported by four maths advisers from the DES Maths Team, based in Devon and involved with the Jurassic Maths Hub, and three researchers from the Centre for Mathematical Cognition at Loughborough University.

#### **Participation:**

Participating teachers will be asked to engage in all aspects of the study across the year as set out in the table below. There is a launch day, three online meetings during the year and a final meeting allowing for participants to share observations and together develop thinking further. Participants will be asked to keep reflective journals where they can capture their observations in relation to the work of the study. Support will also be available through a visit from a maths adviser.

Most of the work in the study will take place as part of existing maths lessons, where teachers will explore strategies for supporting inhibitory control. They will select some focus learners as case studies where inhibitory control as described above appears to be an issue.

Please complete [this form](#) to confirm your participation by July 14<sup>th</sup>. If you have any questions, contact [ruth.trundley@devon.gov.uk](mailto:ruth.trundley@devon.gov.uk)

Date	Activity	Where
Sept. 15 <sup>th</sup> 09:30 – 14:30	Launch day	Tiverton or Exeter tbc
Sept 16 <sup>th</sup> to Oct. 4 <sup>th</sup>	Participating teachers reflect and observe in their class without introducing anything new	In school
Oct. 4 <sup>th</sup> 16:00 – 17:15	Feedback on observations and finalise arrangements	Online
W/B Oct. 16 <sup>th</sup>	Initial assessments. These can be undertaken with the whole class or with children in groups and should take no longer than 15 minutes.	In school
30 <sup>th</sup> Oct to 1 <sup>st</sup> Dec	Five weeks actively working on supporting inhibitory control in the classroom. During this time schools receives a visit from a member of the research team to support the study.	In school
W/B Dec. 4 <sup>th</sup>	Second assessments	In school
13 <sup>th</sup> Dec. 13:30 – 16:00	Meeting to share observations	Online
Spring term	Participants continue to work on supporting inhibitory control in the classroom	In school
13 <sup>th</sup> March 16:00 – 17:00	Meeting to share observations	Online
Summer term	Participants continue to work on supporting inhibitory control in the classroom	In school
Between 3 <sup>rd</sup> and 14 <sup>th</sup> June	Final assessments	In school
June	Schools receive a visit from a member of the research team to talk to focus learners involved.	In school
5 <sup>th</sup> July 2024 09:30 – 12:00	Final Meeting	Tiverton or Exeter tbc