

## INFORMATION SHEET FOR HEAD TEACHER

**Numer8ED: Cross-format number integration and its relationship to mathematics performance**

**Researchers:** Dr Francina Clayton, Clare Copper, Erin Dysart, Philippa Gibbons, Rebecca Lowndes, Rebecca Reed, Federico Trotvil Nossa

**(Supervisor/s:** *Dr Silke Göbel*)

We would like to invite your school to participate in a research study. This document explains why we are doing this research and sets out what will be involved for the school. Please ask us if there is anything that is not clear or if you would like more information.

**What is the purpose of the study?**

This research project is investigating whether the ease with which children translate spoken number words (e.g. 'four') to Arabic digits (e.g. 4) is foundational for mathematical development in primary school.

**What sort of children do we need?**

As part of this research we are hoping to test around 220 children in total, aged between 5 and 6 years (from Year 1). Depending on school size and availability we are looking to test 15-60 children from each school from a single year group.

**Who will give consent for a child to take part?**

We ask that the head teacher of your school provide consent for all children eligible to take part in the study. Parents will then be given the option to opt-out of the study if they would not like their child to take part. It will be made clear that the study is entirely voluntary and that even having given consent the parent/carer is free to withdraw their child at any time without giving a reason. Similarly you can withdraw your school from the project at any time.

**What will be in the study involve?**

Children will be assessed at three time-points, with the first assessment scheduled to take place at the end of Year 1. The following two time-points will take place approximately 12 months apart, in accordance with your school's timetable. For example, testing could take place in June 2017, June 2018 and June 2019.

At the first time-point children will complete one individual assessment session and two or three classroom assessment sessions. An audio voice recording will be taken during the individual assessment session. By completing the majority of assessments in a large group setting we will be able to complete the project in a timely and efficient manner, and therefore reduce the level of disruption to the school schedule. In addition, we hope that children may benefit from completing practice group assessments in advance of their Key Stage 1 tests.

Individual activities: Will include short individual measures looking at children's number knowledge, memory, reading and feelings towards mathematics.

- Memory tasks (recalling sentences, digits and spatial locations in order)
- Computer based number task measuring quick recognition of number words
- Phonics (measures of phoneme awareness)
- Quick naming of digits and letters
- Feelings towards mathematics



Classroom activities: Will include measures of numeracy, number sense, memory and general ability.

- General reasoning ability (which pattern completes the picture)
- Numeracy (timed and non-timed maths problems e.g.  $2 + 7 =$  )
- Number writing (translating number words to Arabic digits)
- Comparison tasks (e.g. which is the larger number 5 or 9?)

We anticipate our request will need you to provide our authorised researchers with access to a quiet area to complete individual testing sessions. We will provide our own equipment for the children to complete the tasks, but will require access to a classroom for the group testing, ideally with a Smart-Board.

The total testing time for individual sessions should not exceed 30 minutes. Classroom based sessions will not exceed 90 minutes. Children will be able to take a short break during each session and will be rewarded with a sticker for their participation. At follow-up time-points (completed at the end of Year 2 and Year 3) children will complete one shortened classroom assessment session, which should not exceed 60 minutes.

We will take every care to keep disruption to the school routine to a minimum. Every effort will be made to ensure that the research sessions are as enjoyable and relaxed as possible for the children.

### **Who will run the research sessions?**

Our researchers have Disclosure and Barring Service (DBS) clearance for working with children. Dr Francina Clayton, Clare Copper, Erin Dysart, Philippa Gibbons, Rebecca Lowndes, Rebecca Reed, Federico Trovati will meet the children taking part and run the sessions.

### **Confidentiality**

We would like to assure you that information from the study will be kept strictly confidential. Children's results will be identified by code number only. Audio voice recordings will only be used by researchers to verify the information taken on the individual measures. Audio data will be deleted to guarantee the anonymity of the children's identity and will not be used in future research. All data will be collected and stored in accordance with the Data Protection Act 1998. This study has been approved by the University of York Psychology Research Ethics Committee (Project ID Number: 559).

We will not provide data about individual children to their parent/carer. We can provide data to you if you request it. However, you should be aware that this information has been obtained for research purposes and would not therefore inform education or other therapeutic needs.

Please do not hesitate to contact the researchers if there is anything that is not clear or if you would like more information.

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***Thank you for reading this information and considering whether or not you would like your school to take part in this study.***

**Numer8ED: Cross-format number integration and its relationship to mathematics performance****Head Teacher Consent Form**

Researchers from the University of York are conducting a project that aims to understand the development of children's mathematical knowledge. I have read and understood the information given to me about the study and give my permission for ..... (School) to take part. I understand that the project will involve the following:

1. Children will be individually assessed on an experimental tasks designed to measure number format translation and on tests of numerical and reading ability over the course of the project (May 2017 to July 2019).
2. Children will be withdrawn from the classroom to receive individual tests and will also complete classroom based assessments.
3. Testing will take place at three time points across Year 1, 2 and 3 (approximately every 12 months)
4. The school will be asked to provide some personal information (their child's date of birth and gender) for the purposes of this research.
5. The Numerical Cognition Lab may invite the school to take part in optional follow-up studies in the future.

I have been informed about the aims and procedures involved in this research. I reserve the right to withdraw any child at any stage in the proceedings, and also to terminate the project altogether if I think it is necessary. I understand that the information gained will be anonymous and that the children's names and the school's name will be removed from any materials used in this research. I ensure that any individual feedback requested by the school will remain confidential. Individual results cannot be divulged to the children themselves or the parents.

Signed ..... (Head teacher)

Print Name.....

Signed ..... (Researcher)

Print name.....

Date.....