

## **A metacognitive approach to the learning and teaching of spelling (MALTS)**

**Rathfern Primary School**

### **Problem: What challenges do your school(s) have that need to be addressed?**

Lewisham is among the 20% most deprived areas in England, with 39% of pupils in the borough receiving Pupil Premium funding (Indices of Multiple Deprivation, 2015). Research shows that parents in low-income families speak on average 32 million fewer words to their children than professional parents over the first two years as a child (Hart and Risley, 1995), the impact of which can be seen in our schools. This language deficit impacts on children's speaking, reading, writing and spelling. Over 90% of the vocabulary of academic texts in schools has Latin and Greek origins, and therefore teaching etymology has positive implications for learning and cracking the academic code of school (Quigley, 2018). Morphology and etymology should not prove an 'enrichment' bolt-on for a select few, but instead integral tools children use to grow their vocabulary (Quigley, 2018).

60% of our pupils speak English as an additional language, creating an added complexity to English acquisition, while over 30% have special educational needs and disabilities (SEND). Our internal Key Stage 2 (KS2) spelling data, writing monitoring and pupil feedback identify spelling as a key issue, showing that over 50% of children make phonetically plausible attempts at unknown words as their predominant strategy. 40% of our children across KS2 are below age expected standards in Spelling. 50% of these children have SEND.

### **Innovation: How will the innovation help improve the problem you have identified and benefit teachers and learners?**

Our innovation integrates a metacognitive approach with a thorough spelling programme, Support for Spelling (2009). This programme addresses the complexity of the English orthographic system and breaks it down into different skills that are crucial for accurate spelling (Steffler, 2001; Pentecost and Dickie, 2011; Bruce and Robinson, 2002). These skills include orthography, phonology, morphology, etymology, visual memory, handwriting and vocabulary.

Both the intervention and the control group will use Support for Spelling as their teaching tool, but

the intervention group will have an adapted programme that integrates an explicit metacognitive dimension promoting the learner as active, self-monitoring and reflective (Cordewener et al, 2018), because pupils who are aware of the strategies and processes they use perform better (Block and Peskowitz, 1990). It is fundamental that these skills are integrated with the teaching of spelling as research suggests spelling is not a memory but a thinking skill (Pentecost and Dickie, 2011).

### **Existing evidence: What evidence is there that this innovation will improve outcomes?**

Existing research acknowledges that learning to spell in English is a complex, long-term process (Carovolos, 2004). It is not enough to provide children with lists of words. Research highlights the benefits of developing spelling consciousness or metacognition (Cordewener et al. 2018; Pentecost and Dickie, 2011; Education Endowment Foundation 2018). Some research studies promote a problem solving approach, where spelling is taught in context and teachers develop learners' understanding of orthography, phonology and morphology (Pentecost and Dickie, 2011; Bruce and Robinson, 2002). Others promote discrete teaching of rules while promoting metacognitive strategies such as strategic self-monitoring (Cordewener et al., 2018; Haywood, 2017).

Research shows that metacognition involves thinking and reflecting. When this is applied to the process of improving spelling, learners become better spellers (Pentecost and Dickie, 2011; Cordewener et al., 2018). We have successfully incorporated this approach into our teaching of other subjects. Furthermore, research shows that spelling consciousness is highly related to performance, and that learning rule-based spellings requires the ability to reflect on one's spelling (Cordewener et al., 2018). Learners need to be able to think and reflect to gain knowledge and understanding of which strategy can and needs to be used (Pentecost and Dickie, 2011; Block and Peskowitz, 1990; Cordewener et al., 2018). The Education Endowment Foundation's metacognition and self-regulation guidance report (2018) cites an example of a child who adopts a metacognitive approach to spelling to secure success.

**Research question or hypothesis: What effect will the intervention, implemented for how long, with which pupils, have on what outcomes?**

What impact does a metacognitive approach to the teaching of spelling delivered over 9 months have on spelling competence for children in Years 3 and 4?

Sub-question: What impact does participation in the MALTS programme have on teacher's knowledge, confidence and practice in the teaching of spelling?

**Method: Include sample, design, measures, intervention, process evaluation, and analysis**

Sample/ participants

Four Year 3 and Year 4 teachers across two schools in Lewisham with similar demographics will teach the programme (Rathfern Primary School and Kender Primary School). There will be approximately 120 pupils in the intervention group and 120 pupils in the control group. Both schools are urban, inner-city, two form entry schools with above national averages of children with EAL and SEN and children receiving Pupil Premium.

We will gain written consent through an opt-out form for pupils data to be included in the analysis.

This approach is currently not used by any teachers, however there is a small risk that some teachers at Rathfern Primary School might incorporate their knowledge of metacognitive approaches to the teaching of spelling in their classrooms. This is unlikely, but will be monitored through observations in the control groups as well as the experiment groups.

Design and assignment to condition

After the baseline assessment (see outcome measures, below), classes with similar test outcomes (and similar demographics) in the same year group will be paired up. One class in each pair will be randomly assigned to the intervention group using a number generator, the other to the control group for a direct comparison. By using the Institute for Effective Education's analysis spreadsheet, we will be able to check that the intervention and control group have equivalent pre-test outcomes. Four classes (two in Year 3 and two in Year 4) will receive the intervention and the remaining four classes will act as controls.

Measures

Both our baseline and end of project assessments will be from the Helen Arkell HAST-2 to

provide a standard age equivalent score (spelling age). This is a standardized test - the correlation coefficient for validity is deemed high. The results are subdivided into four-month age bands from the ages of 5:0 to 12:11 and one-year age bands from 13:0 to 16:11, which will provide us with age-related scores for each child.

The HAST-2 assesses spelling competence by diagnosing different errors made by children linked to orthography, phonology, morphology, etymology, visual memory, handwriting and vocabulary.

Form A (pre-test), and Form-B (post-test) will be administered and marked by Jessica Birnie, who will not be aware of who is in the intervention or the control group.

### Intervention

Children in both the intervention and control groups will receive three 30-minute whole-class spelling sessions weekly, delivered by their class teacher for five half terms. For the control group, these will be discrete sessions described in Support for Spelling (2009). For the intervention group, these sessions will follow an adapted version of Support for Spelling (created by Rathfern Primary School) which incorporates opportunities to work with a strategic partner (stronger and weaker spellers). This will enable children to engage in metacognitive dialogue during paired learning activities, which will be modelled with each child given a clearly defined teacher/learner role (Block and Pescowitz, 1990; Education Endowment Foundation, 2018).

Research suggests that learners with more accurate spellings possess a greater understanding of the strategies they use, unlike less confident spellers (Pentecost and Dickie, 2011). By pairing these children, one child will be able to engage the other in a metacognitive dialogue using the identified strategies from the metacognition toolkit (Pentecost and Dickie, 2011; Education Endowment Foundation, 2018). These strategies are activating prior knowledge, explicit strategy instruction, modelling of learned strategy, memorisation of strategy, guided practise and independent practise with continuous structured reflection throughout each lesson.

Additionally, children in the intervention group will receive contextualized spelling support in writing lessons to apply and consolidate the spelling skill in context, as research suggests that metacognitive strategies must be taught in context alongside content for children to be able to fully engage in them (Pentecost and Dickie, 2011). For example, if the spelling focus for the week was homophones, then at the editing stage of the writing process children would be given the opportunity to identify homophones in the context of their own and others' writing. This will be modelled as part of the training programme and will come from a teacher's assessment for learning of the previous day's writing.

As Pentecost and Dickie (2011) posit, “for this analytic approach to spelling to be successful, teachers may need to develop their own knowledge of the orthographic system and of morphology”, so a full day of explicit spelling training carried out by Jessica Birnie (former head of Lewisham Specific Learning Difficulties) is planned. There are six twilight training sessions for the intervention group based on Support for Spelling (2009), the Education Endowment Foundation metacognition and self-regulation guidance report (2018), teacher reflections and lesson observation findings.

All staff from Year 2 to 6 will receive general training in how to use Support for Spelling and Letters and Sounds half termly, and there will be a debriefing meeting afterwards for the intervention teachers, who must be silent observers in these meetings. The debriefing meetings will give intervention teachers the chance to discuss Support for Spelling in relation to the intervention.

Teachers of intervention group classes will also have a chance to take part in peer observations. These will be for training of staff and enable staff to learn from each other. There will be a structured dialogue after these observations and a chance to discuss them at the half-termly MALTS meeting. This will give us the chance to ensure that misconceptions aren't being perpetuated.

As Teaching Assistants work across classes, it has been decided that they will not be in class during intervention and control group spelling lessons to reduce the chance that the control group would receive elements of the intervention.

#### Process evaluation

Half-termly observations and quality assurance will take place in both the control and intervention groups. These observations will be carried out by Rachel Waddoups, the Rathfern Lead Teacher. In these observations, we will be checking that the intervention is being taught as expected by checking for our active ingredients. This will be done using a tick list to check that content has been taught regularly and to confirm fidelity to the project. The same tick list will be used in the control class to check that they aren't incorporating the elements unique to the intervention.

Teachers will also complete an electronic 'tick log' of lessons taught. This will simply be a chance to check off each lesson as it is taught, but also for staff to jot down any queries or questions to be discussed in meetings.

Both intervention and control teacher perceptions will be gathered through a half-termly 8-question survey with answers ranging from strongly disagree to strongly agree. This will look at changes in confidence over the year, but also support training in the intervention group by

enabling us to identify and address any misconceptions and address other issues as they arise.

### Data analysis

Jessica Birnie will analyse test data by calculating the mean months of progress made by each pupil, which will be considered alongside contextual data for pupils. This analysis will be synthesised with the process data to see if the quality or quantity of teaching has an effect on the impact of the RCT.

Jessica Birnie will calculate the mean pre-test and post-test scores for intervention and control groups, and the effect size of the innovation for Year 3 and 4.

We will also carry out an analysis of our Pupil Premium children and any children who had a standardised score of below 85 in the baseline assessment.

Process analysis data will be analysed by finding the median ratings. This will include data from an online, anonymous survey about changes to spelling in the context of writing.

**Conclusion: What will happen if your innovation improves outcomes, or not?  
What are the limitations of your evaluation?**

### Potential Limitations

Since all the teachers of intervention and control classes work at the same schools there is a risk of contamination. It is likely that teachers will talk to each other about what they are doing and what progress is taking place. We are endeavouring to conduct training in separate groups and staff will sign a memorandum of understanding to try to avoid contamination.

As we have spent some time developing a metacognitive approach at Rathfern Primary School, some teachers may teach in a different way to staff at Kender Primary School. This will be closely monitored through observations.

Studies also show there can be some level of pupil:pupil contamination, and in our case this may happen with siblings, however this is very unlikely to be a large threat as there will not be any home learning completed for spelling.

Where possible, we will avoid staff knowing who is in the control and experimental group to ensure they are treated equally.

### Implications

If the innovation is found successful, we would ensure that all staff at participating schools

receive training and roll out the programme, and also ensure there is paid training for interested schools through our Chartered Network Hub. We can share outputs via the Chartered College's Research and Practice Hub online and contribute to the College's journal, Impact.

If the impact was neutral, we would continue to run it for an additional year with further expert training of metacognition and spelling and some adaptations to the programme based on our findings, then would review the impact again.

If the control group make more progress than the experiment group, we would interrogate the data and process analysis to endeavour to find out why this was, then adapt the programme for maximum success.

### References and further reading

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