

Herts for Learning
‘Diagnosing and Intervening Effectively – Place
Value (Year 3)’ Project
2018-19
Impact Summary

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Research question

How can we enable schools to intervene more effectively when providing additional maths support?

Rationale and Aim

High-quality, structured intervention is required for some pupils to make progress in maths (EEF, 2018)¹. The aim of the project was to establish how schools can be enabled to most effectively intervene to provide additional mathematics support.

Research Undertaken

Using the advice outlined in the EEF guidance report, advisers focused upon research that had already been conducted into the “*features common to successful interventions*”² and drew on their school-based knowledge of working with practitioners. As a result, it was identified that schools needed support to precisely identify the focus for mathematics intervention and to develop a manageable delivery model. Consequently, maths advisers developed a diagnostic assessment tool to identify common gaps in mathematical understanding and used this to track back to the relevant teaching guidance needed to close this gap.

This model was piloted with six schools (Summer 2018). Advisers used the diagnostic tool to generate individualised four-week intervention programmes. These were then delivered to 12 children by school staff using the relevant teaching guidance. Evaluation of pupil data indicated a positive impact. The intervention programme supported schools to successfully close identified gaps.

The materials and processes were developed further in the ‘Intervening Effectively Project’ (Autumn 2018). Nine schools were provided with the diagnostic assessment tools to expose gaps in mathematical knowledge in place value and the associated teaching guidance to support closure of these gaps. In addition, two members of staff from each school were trained to manage and deliver the intervention programme successfully.

¹ Improving Mathematics in Key Stages Two and Three Guidance Report, EEF (2018)

² Improving Mathematics in Key Stages Two and Three Guidance Report, EEF (2018), p28

Results

Data were collected across five key conceptual place value foci for all 16 pupils who were the focus of the intervention programme. The following positive outcomes were identified:

- Improved scores were observed on the HfL diagnostic assessment questions, after four weeks of intervention;
- 100% of pupils' scores improved. The table below outlines the progress in each key area:

Place Value Area	Pre-intervention	Post-intervention	Impact
Number sense	57%	90%	33%
Counting	22%	73%	51%
Magnitude	29%	80%	51%
Place value	23%	77%	54%
Order, comparing and rounding	54%	100%	46%
Average improvement in scores after 4 weeks			47%

- Pupils were also assessed before and after using a further objective assessment. Pupil scores improved on this independent place value assessment after four weeks of intervention;
- Average pre-intervention scores were 53%. This increased to 77% post-intervention;
- 100% of pupils had improved place value as measured by the independent assessment.

Conclusion

The intervention process and resources provided have enabled schools to improve how they intervene in providing additional mathematics support. Further analysis revealed that impact has been increased through adding precision to the diagnosis of the pupils' gaps in learning and in providing systematic and structured teaching guidance to close those gaps. As a result of the personalised precision of the interventions, time and teaching has been focused effectively to enable pupils to make progress in the key mathematical areas of place value. This is evidenced through improved attainment on both the HfL diagnostic and independent assessments.