

The Numicon Approach Impact Report 2008-2011 Data

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## Numicon Approach Impact Report

We have collated Numicon research data from our authors, Local Authorities and schools that have trialled Numicon, as well as from customers that have implemented the Numicon approach in school. The data provides a clear picture of the benefits Numicon is bringing to teachers and children in the UK and overseas.

## **Highlights**

#### Local Authority Intervention Studies

Local Authorities running the Numicon Intervention Programme found that children's mathematical ability across a range of activities increased significantly. It was also noted during the Cambridge trials of Numicon that children's mathematical self-confidence greatly improved. See page 3 and read more online

#### Key Stage 1 Local Authority Studies

Year 1 and 2 teachers commented that Numicon supported children in learning specific concepts that in previous years had been difficult or in some cases not understood- in particular, number bonds to 10 as rapid recall, (instead of calculations) one more and one less, odd and even, understanding subtraction as difference, as well as 'take away,' inverse operation, repeated addition and its link to multiplication. Leicestershire LA research: read more online

#### Key Stage 1 and 2 Numicon School Trials

Early Numicon trials reported a 47% increase in students achieving Level 3 at KS1 after using Numicon and a 72% increase in students achieving Level 5 at KS2, having used Numicon in KS1. (Peacehaven Infants and Hoddern Junior School results). See page 4 and read more online

#### Customer Satisfaction Survey

A recent customer survey showed that 98.9% of customers that have attended Numicon Professional Development courses said that the training was effective (37.9%) or very effective (60.9%). Comments included that Numicon PD courses where **inspiring**, gave teachers **confidence**, great ideas for classroom practice and really **enthused** them to get started with the approach. See page 5

'Significant improvement' was reported by the majority of teachers for the impact on children's mathematical achievement and enjoyment of maths, when using Numicon. See pages 5 - 7

> To read full research reports from Local Authorities, Schools and the Numicon Authors, visit www.numicon.com/research or use your smart phone to scan this QR code.



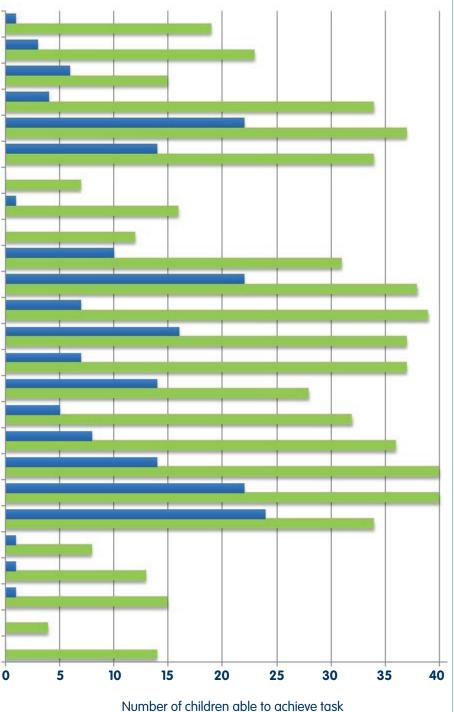
### **Cambridge Local Authority Research**

Cambridge Local Authority conducted trials in the use of Numicon in the form of a 10-week Wave 3 intervention programme. The reported results summarised in the table below, show notable progress for the vast majority, together with greatly improved mathematical self-confidence in the children.

The combination of a new self-confidence and an understanding of very basic number ideas is providing these children with the best possible platform for their future success.

#### Figure 1: Cambridge Intervention Programme Results

Able to read simple division calculation Able to complete division with numbers under 10 Able to multiply 2 groups of 5 Able to multiply 3 groups of 2 Able to multiply 3 groups of 4 Able to add two groups of objects smaller than 10 Able to read simple addition calculation numbers under 10 Able to complete addition with numbers under 10 Able to make 10 using two smaller numbers Able to find another two numbers to make 10 Can subtract groups of objects under 10 Can subtract groups of objects under 20 Can count on using numbers under 10 Can count on using numbers under 20 Able to read simple subtraction calculation Able to complete subtraction with numbers under 10 Able to complete subtraction with numbers under 20 Able to read simple multiplication calculations Able to complete multiplication with numbers under 5 Can subtract groups of objects under 5 Can count on using numbers under 5 Shows an understanding of 10 less Shows an understanding of 10 more Able to state the double of 8 Able to state the double of 6

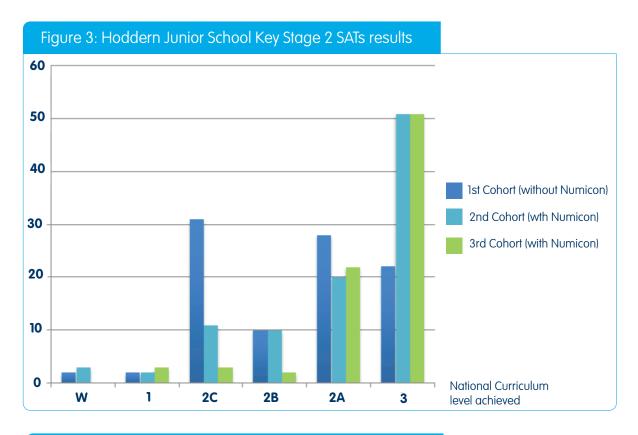


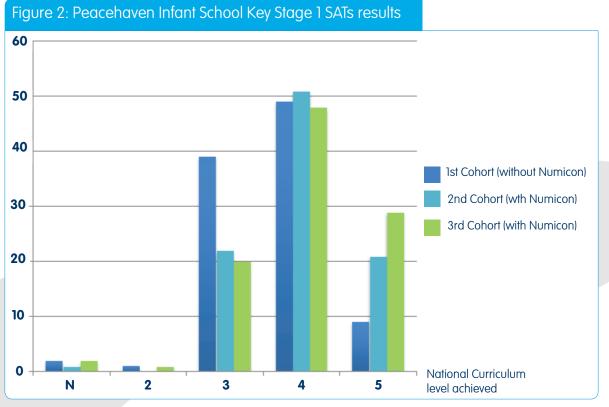
#### After 10 weeks of using Numicon

Before the Intervention

## Early Numicon Trials: gathering evidence for Numicon

When comparing three infant school cohorts over five years the study found that using Numicon led to a **47%** increase in children achieving Level 3 in KS1 maths and a **72%** increase in the number of those children later achieving Level 5 at KS2.



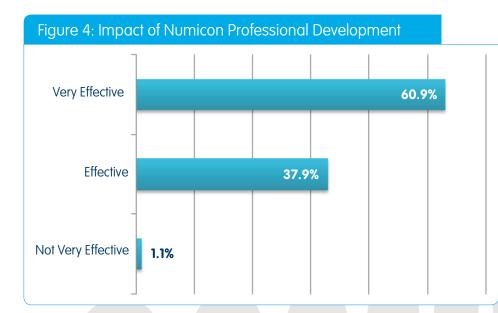


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### **Results from our 2011 Customer Survey**

We asked existing Numicon customers what impact they felt that the Numicon approach and professional development had made to the way they teach maths. Over 150 teachers responded with the following feedback. Over 90% found Numicon professional development effective or very effective and almost everyone we surveyed ranked the Numicon resources as good or excellent.

#### 1. How effective did you find the Numicon Professional development that you received?



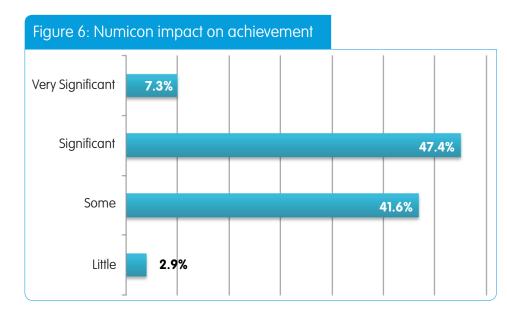
#### 2. How would you rate the Numicon Resources based on the following criteria?



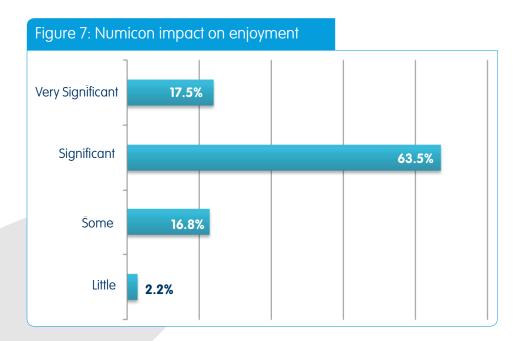
# What children think and say about Numicon...

In our recent Numicon survey we asked you to tell us what impact Numicon has had on children's achievement and enjoyment of maths. We've had an overwhelming response from teachers and over **50%** of you have seen a significant or very significant difference in achievement and over **70%** of you noticed children's enjoyment of maths increasing significantly.

#### 3. What impact has the Numicon approach had on Pupil's achievement?



## 4. What impact has the Numicon approach had on Pupil's enjoyment of maths?





"I like it 'cos I can see patterns in the numbers"



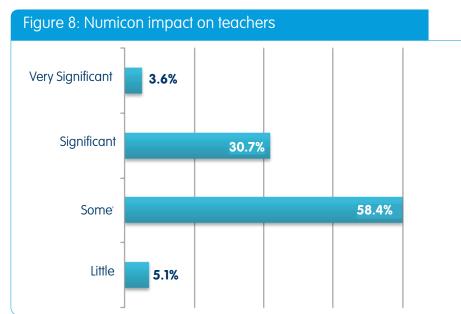
#### " We can do maths now!"



"I used to be bad at maths, now it's my best"

## What teachers think and say about Numicon...

Over **90%** of teachers using Numicon in their lessons felt that the quality of maths teaching had improved since they adopted the approach, with over **30%** finding a significant improvement.

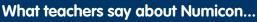


#### 5. What impact has Numicon had on the quality of maths teaching in your school?

"Our children write a self-assessment as part of their annual report, this year several commented 'I am good at maths'.

This is a welcome change since they have been using Numicon"

Leicestershire LA Study





"Numicon is a highly visual resource which can be used to explain 'abstract' concepts in a clear way."

"The children I am using Numicon with are loving it & it quickly became apparent how much they were benefiting from using it."

"Numicon is the best number system I have ever found, in 26 years of teaching"

"Numicon enables children to really 'see' how numbers and the number system work"

"Numicon is definitely a brilliant programme for all levels of children"

#### How to get in touch:

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#### About the Numicon Project

The Numicon Project is a collaborative endeavour to facilitate children's understanding and enjoyment of maths.

The Project was founded in the daily experience of intelligent children having real difficulty with maths, the frequent underestimation of the complexity of the ideas that we ask young children to face and a recognition of the importance of maths to them and to society as a whole.

We appreciate the complexity of these early number ideas and seek to foster the self-belief necessary to achieve in the face of difficulty; we are not about 'making maths easy'.

We believe that the combination of action, imagery and conversation helps children to structure their experiences, which is such a vital skill for both their mathematical and their overall development.

By watching and listening to what children do and say, we and many others are finding that our developing multi-sensory approach provides learners with the opportunity to play to their strengths, thereby releasing their potential to enjoy, understand and achieve in maths. This enjoyment in achievement is also shared by teachers and parents.

We strive to support teachers' subject knowledge and pedagogy with teaching materials, professional development and on-going feedback as we continue to develop a better understanding of how we can work together to encourage all learners in the vital early stages of their own mathematical journey.



