Strengthening links in Mathematics: Strengthening links between schools

Our Enigma Maths Hub project involved collaborative learning between eight schools from across the Enigma Hub area.

Our project schools come from a variety of contexts from across Milton Keynes, Bedford, Northamptonshire and Hertfordshire.

The common aim for all of us was to consider how we could enable our pupils to make links in their mathematics learning through a number of approaches.

Each of the school projects has been written up and we hope that they are interesting and useful for you and your colleagues. If you would like further information on any of the projects please contact Hub Administrator Gaynor Garton on the following email: gartong@denbigh.net in the first instance.

If you would like to be involved with a project like this then make sure that you keep an eye out for future Hub projects.

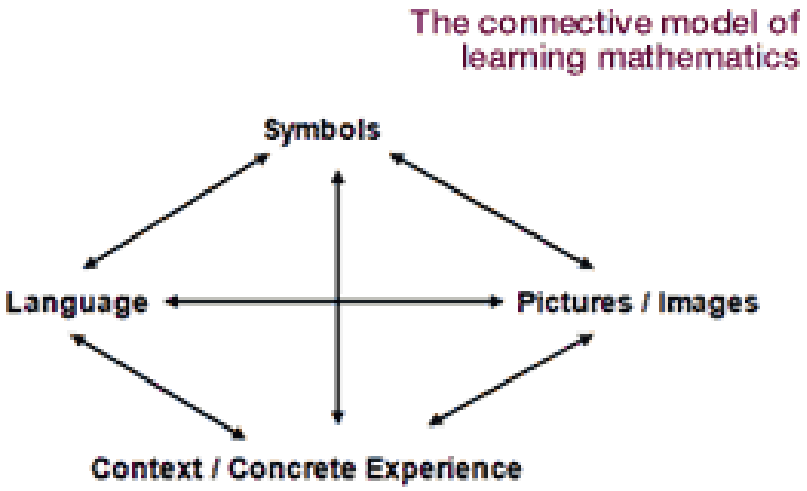
Who was involved	**Project titles**
Abbot's Hill School	Strengthening links between maths in the classroom and the real world
Brooklands Farm Primary	Strengthening links in Mathematics at Foundation Stage through using the connective model from Haylock & Cockburn
Great Linford Primary	Strengthening Links Using Pictorial Representations
Heronshaw Infant	Ensuring a clear progression of mathematics skills across the school.
Irchester Primary	Strengthening links in Mathematics: Where Is The Maths In That? *Using real-life objects*
Kents Hill Infant	Increasing the links that children make with models and images across the different areas of maths
Queens Park Academy	Making links in Guided Maths (NQTs and support staff)
Wavendon Gate Primary	Pupil involvement in strengthening links

What has been the impact of our Strengthening Links project?

Each of our projects has been evaluated against the differences that have been achieved for the pupils, for our colleagues and for ourselves.

References

Throughout the project sessions as well as in our school work many of us have made use of Haylock and Cockburn's Connective model (below)



Through this highly relevant research Haylock and Cockburn (2003) suggested that the network of connections between concrete experiences, pictures, language and symbols could be significant to the understanding of a mathematical concept.

Connecting the areas in the connective model (experiences, pictures/models, language and symbols) will enable our pupils to develop understanding and make connections with their learning.

See individual projects for further detail.

Project format

We met as a group for four afternoon sessions in one of our own schools. Between sessions we further developed out projects.

The Strengthening Links project was co-ordinated by Ruth Edwards.

Below are summaries from some of our group discussions and reflections.

We have been strengthening links in Maths by ……

…… developing deeper understanding

….. drawing on previous knowledge

….. developing confidence

….. building blocks year on year

….. mastery

…..making connections

…..links to life outside of the classroom

….. building on existing knowledge and skills

….. not perceiving learning in a straight line

….. enabling pupils to apply maths in lots of contexts

….. creating cross-curricular links

….. linking different areas of maths together

How can we make links in Mathematics?

How will our pupil make links?

Teachers	Pupils
Teachers making links within maths when planning	Pupils recognising the links within their maths learning
Teachers doing the same things in different ways	Pupils doing the same things in maths in different ways
Bringing real-life into the classroom	Pupils connecting maths learning with real-life
Discussion about links within maths learning	Pupils independently making links within their maths learning
Linking the concrete to the abstract for pupils	Pupils linking the concrete to the abstract for themselves
Teachers creating an effective learning environment	Pupils making use of the learning environment as a learning tool
Teachers creating oportunities for pupils to think mathematically	Pupils thinking mathematically in their learning
Teachers creating learning opportunities and tasks involving reasoning and justifying	Pupils able to reason and justify their thinking
Teachers drawing attention to links with prior learning	Pupils making connections with their prior learning
Teachers using similar learning tasks to previous learning	Pupils recognising links with previous learning
Teachers planning for problem-solving activities	Pupils applying their learning in problem-solving activities