

UNIVERSITY OF  
NEWCASTLE UPON TYNE



## Implementing and Developing 'Learning Mats' and 'Stuck Mats' in Key Stage 1



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### ◆ PROJECT AIMS

Our aim is to produce lifelong learners with the skills to help themselves when stuck:

- we will try to improve the standard of children's writing and to give them more independence by introducing them to different ways of learning; and
- we will focus on the 5Rs (in child-friendly terms) during the year to help the children become independent learners.

### ◆ RESEARCH FOCUS

The research will aim to understand:

- how the adoption of Learning to Learn (L2L) approaches impacts on teacher motivation and capacity to manage change;
- whether, and if so why, Learning to Learn approaches support the development of confident and capable life long learners; and
- the nature and impact of different learning environments on achievement and the teaching and learning approaches that best supports them.

#### Focus in the 5Rs for Lifelong Learning:

|                 |                                     |
|-----------------|-------------------------------------|
| Resilience      | <input type="radio"/>               |
| Remembering     | <input checked="" type="checkbox"/> |
| Resourcefulness | <input checked="" type="checkbox"/> |
| Reflectiveness  | <input type="radio"/>               |
| Readiness       | <input type="radio"/>               |

### ◆ DIMENSIONS OF THIS CASE STUDY

St Saviour's is a Catholic Infant School with 132 children on roll. In September 2003, the learning mats were introduced initially to one Year 1 class of 20 children and one Year 2 class of 23 children. These classes are mixed ability and gender. The mats have since been introduced to the other two classes in Year 1 and Year 2.

### ◆ SUMMARY OF FINDINGS

- Learning mats were of benefit in most subjects were the children needed to write independently.
- The mats did not have all necessary or relevant key words on them and other strategies to use to help children who were still stuck.
- The benefits were that the teacher was given more valuable time with the target group instead of being interrupted by other children in the class.

## CONTEXT

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### School

St Saviour's Catholic Infant School is located in between a council estate and private housing in a working/middle class suburban Ellesmere Port, Cheshire. Ofsted, in 2003, described the school as:

St Saviour's Infant School is situated in Ellesmere Port. The pupils are aged between 4 and 7 years. Currently there are 139 children who attend the school. The children come from a mix of owner occupied and rented accommodation in the local parish. Just over 12 per cent of the children are eligible for free school meals, which is below average. An average proportion of children (18 per cent) are identified as having special educational needs for learning difficulties. Fewer than average (less than one per cent) have a statement. Most children enter the reception class with lower than average standards. A very small number of children are from minority ethnic groups and none speak English as an additional language. There is roughly an equal number of boys and girls. All the classes have mixed ability groups. The Headteacher has been in post for much of her career and the deputy was appointed two years ago.

were the year groups of the teachers involved.

### Teacher(s)

The two teachers involved are Mrs Mary Barrett, a teacher of Key Stage 1 for 22 years and before that a teacher in a Primary school for six years. Miss Fleur McAlavey has taught for ten years in four different Catholic Primary Schools. Both teachers were involved in the Inclusion Project and this research seemed a very natural progression. They are both very interested in mind friendly learning and putting the fun back into learning.



*This project aimed to help the children become more independent writers by developing the use of learning mats (shown in the picture)*

### Pupils

In the current Year 1 class there are 20 mixed ability children. Four children have IEP's and two are on School Action and School Action Plus. They have been gradually introduced to the Learning to Learn scheme since September 2003.

At the time of this research project there were two pupils waiting to be given a statement. There are no pupils with English as an Additional Language. There are approximately 10% of pupils eligible for Free School Meals (FSM).

We chose Years 1 and 2 children to be involved with the course because they

In the current Year 2 class there are 23 mixed ability children. Six children have IEP's, two children are on School Action and one child is on School Action Plus and due to be statemented. Both classes are used to inclusive learning, mind friendly approaches, Brain Gym®, water and Visual, Auditory and Kinaesthetic (VAK) teaching techniques.

## PROJECT OBJECTIVES

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### Rationale

There was a fall in writing standards within the school. The school development plan was to improve writing across the whole school. We wanted to make the children more independent writers and thus encourage them to improve their performance.



*Photos were used as a basis for helping children to know the different strategies they could use to approach their learning*

### Objectives

The learning mats were designed by the two project leaders with comments and ideas taken from colleagues. They were introduced to the children gradually in the first Autumn Term in literacy lessons only. They were designed to make the children more independent. Now this has progressed to encourage confidence in many other curriculum areas. They thought that it would make the children more Resourceful and Resilient. Target pupils were a Year 1 (20) and a Year 2 (23) with parallel control classes.

### Hypothesis

This project aimed to investigate whether using learning mats in Year 1 and Year 2 will help develop their Resourcefulness/Remembering and make connections and so raise standards and develop confident and capable lifelong learners.

## RESEARCH PROCESS

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### Teachers' Choices

On page 6 of the 'Cheshire Learner Entitlements' Cheshire Early Years Development and Childcare Partnership (EYD & CP) it states that children are entitled to:

Understand the learning process, experience a range of learning styles and develop their own tools for learning. They will be supported in their learning by practitioners, who understand the learning process themselves and encourage and support children to develop their own learning style, through for example, letting them select their own resources, materials and methods increasing their responsibility to plan and organise their own work.

We decided to tackle the project in two ways. We began by making differentiated learning mats for each child in the two focus classes. We started using the mats during literacy and we hoped this would give the children a chance to be more independent when writing and that it would also help the children to remember words.

Secondly, we wanted the children to know the different ways of approaching their learning and know what to do when stuck!

We had chosen Resourcefulness as we believe it is necessary to be resourceful in order to be a life-long learner. We chose Resilience because we wanted the children to be confident, to keep going and to use different approaches when stuck.

### Our first aim

- We used mats initially during literacy lessons and found the children very excited when using them.
- As the year progressed we introduced them in other curriculum areas and had them always available at the writing table.

### Our second aim

- We produced a display on our walls which illustrated the 5Rs in child friendly language:

Readiness = Ready  
Resourcefulness = Can Do  
Resilience = Keep Going  
Remembering = I Know  
Reflectiveness = Next Time



*The 5Rs were adapted into a format young children could easily understand*

- We then asked the children to illustrate how we could do these things after discussion.

We then decided to show the 5Rs on the mat through photos of children involved in each L2L strategy. Our reaction to this approach was exciting. After a short time we realised the mats would have to keep evolving and be adapted to suit more than the literacy lesson required. It also made us realise that we could use this approach

in numeracy and many other curriculum areas.

We could see the children's reaction to the mats was very positive. They enjoyed using them and frequently asked for them when they were writing in other curriculum areas. We found the research process made us more aware of the children's needs especially those who were less confident in writing and what a valuable tool the mat was.

We also found that the research process has given us a chance to develop our own skills and expertise and has enhanced our learning.

### Evidence Collected

Examples of children's writing at the beginning of the year and pupil response records, questionnaires, class responses to mats, teacher responses, SATs results for English.

We wanted to know if the children understood what we meant by the 5Rs. Results of SATs could show improvement through formative assessment in writing. We wanted to know what teachers' response to the mats were to provide another independent viewpoint of their value.

### The Role of Learning to Learn

Learning to Learn was important to our rationale to understand how we can help pupils to learn most effectively and so give each one the best chance to achieve his or her full potential through the 5Rs.

We looked at Resourcefulness for our first research project but then found that this led into other areas such as Resilience.

We used the mats initially as a resource for the children and realised that it was also an aid to 'Remembering' and to 'Resilience'.

We feel that the mats give the children another strategy to become independent learners and therefore fulfil their potential.

L2L gave us a sound starting point to begin our research. Meeting other colleagues from different schools and LEAs who were also working on the project gave us an opportunity to exchange and refine ideas.



*The project has helped children to discuss what they think a good learner can do*

The role of L2L for the teacher has offered us the opportunity to discover our own learning styles and thus adapt to different ways of interacting with the pupils and encouraged us to use mind friendly learning techniques.

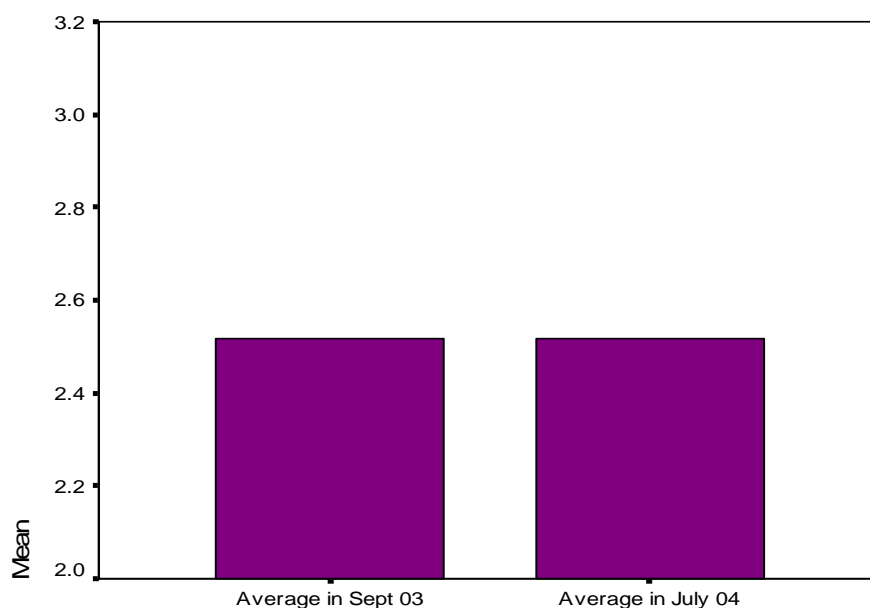
The effect on the pupils has given them the chance to co-operate and work with each other in their preferred learning style. It has also given them valuable tools as they are able to discuss with us what a good learner is as opposed to being good at learning.

## DISCUSSION OF RESULTS

### Findings

Class/pupil response was collected in order for us to know how the children felt about the mats before using them and after. The purple graph is the results from the Year 1 class. The mean response was calculated from the children across the class for the September sample and the July sample. As you can see the results are remarkably similar: there has been no change in the children's general attitudes over the year.

Data from the Year 1 cohort was named and so individual changes in attitude could be tracked across the year. This was tested with a paired-samples t-test. No significant results were found.



*Graph showing attitudes of children over the year*

YEAR ONE PROJECT 2003/2004

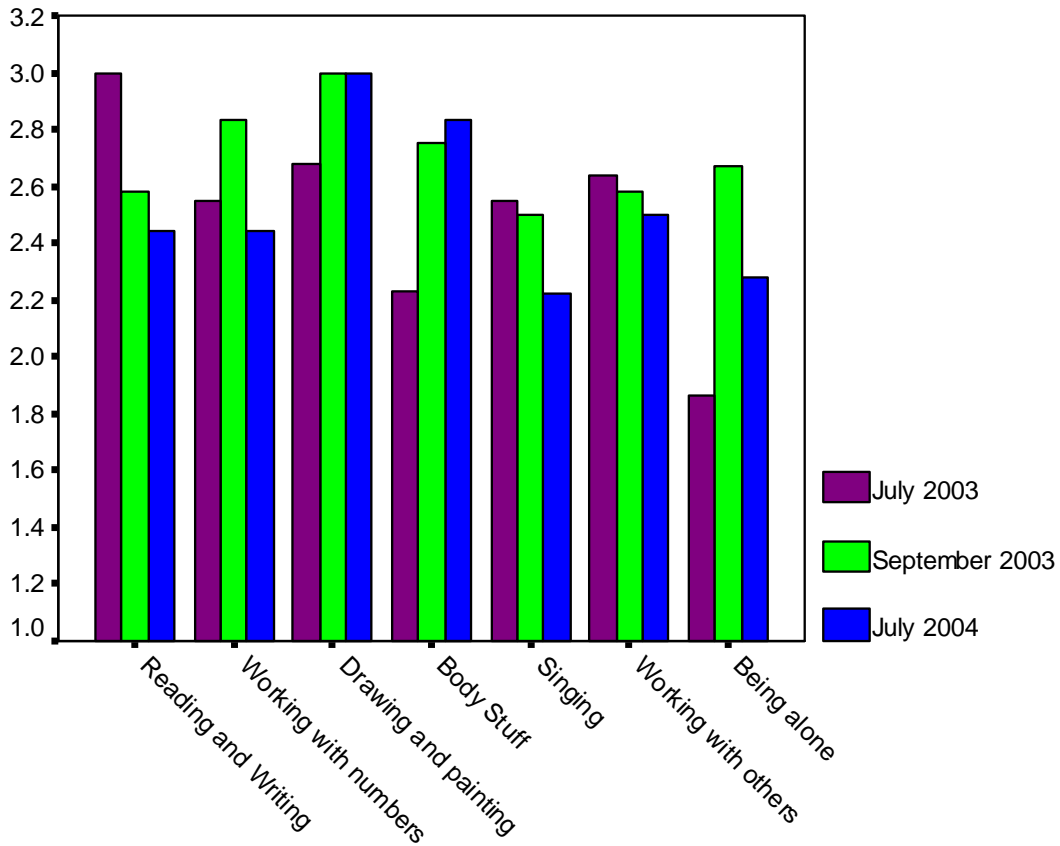
When each of the individual aspects were analysed, attitudes to 'reading and writing', 'working with numbers' etc, findings showed that there was also no significant change over the year.

The Year 2 children were asked to complete the questionnaire three times, once in July 2003, then again in September 2003 and finally in July 2004. Sample sizes can be seen below.

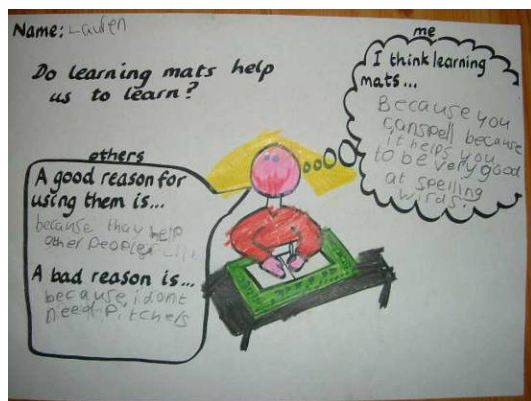
The graph shows how pupils' attitudes changed to different aspects of learning, as asked about in the questionnaire. It is possible to see that attitudes to 'reading and writing', 'working with numbers', 'singing' and 'working with others' all showed a decline in attitude over the year. This could be taken as a negative finding, but research into thinking skills has shown that strategies such as these initially increase awareness of children about what they need to know, before positive impacts can be seen.

|                | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------|-----------|---------|---------------|--------------------|
| July 2003      | 22        | 42.3    | 42.3          | 42.3               |
| September 2003 | 12        | 23.1    | 23.1          | 65.4               |
| July 2004      | 18        | 34.6    | 34.6          | 100.0              |
| Total          | 52        | 100.0   | 100.0         |                    |

Table showing sample sizes for questionnaire completion



Graph showing how children's attitudes changed to different aspects of learning



Using pupil views sheets the pupils were asked what they thought about the learning mats

Positive changes in attitude were found for 'drawing and painting' and 'body stuff'. When an independent t-test was used to compare the results for September 2003 to July 2004, over the duration of the school year with the same teacher, none of the questions revealed a significant change in attitude. When the same test was done from July 2003 to July 2004 significant results were found for 'reading and writing' (a negative change:  $P < 0.005$ ), and 'body stuff' (positive change:  $P < 0.05$ ).

Comments from the children showed that they had valued the learning mats in a number of different ways. Some pupils mentioned how they liked the picture representation:

Would like it to have pictures to give you ideas for writing.

Needs pictures of 'have a go book'.

They obviously liked the independence which the mats gave them:

Instead of having to think about question words, they are there. Can get letters the right way around.

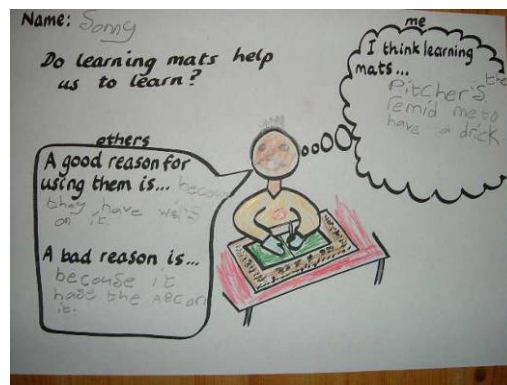
When you are writing a story its got to have a beginning, middle and end. It can remind you!

The children also commonly mentioned the benefit that the mats had specifically for writing:

If you don't know how to spell a word, you look at the mat.

Instead of writing "...and then" all the time.

Its got the alphabet to help you write your letters the right way round.



Pupil liked the fact that the learning mats helped them remember

Not all comments were positive though. Some children felt that the mats were a reminder of when they were younger:

[Pointed to alphabet and said] "don't like it, it reminds me of preschool."

Or that they did not provide the evidence and information that the individual needed:

Words aren't useful enough.

Want long words and hard words.

We wanted to know if the children understood what we meant by the 5Rs. Results of SATs could show improvement through formative assessment in writing. We wanted to know what teachers' response to the mats were to provide another independent viewpoint of their value.

Our initial aim was to improve children's writing. The evidence to demonstrate this is as follows:

- SATs results show an improvement;
- written work from beginning and end of year shows improvement;
- children's quotes and comments were favourable;
- teacher interviews were positive.

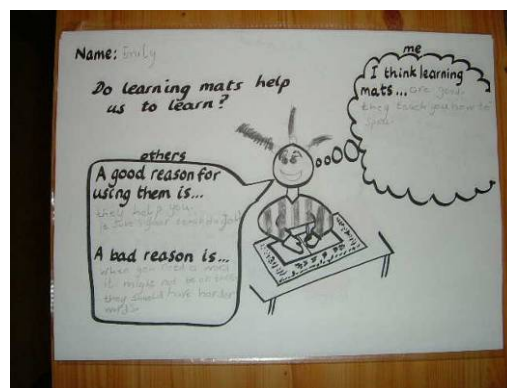
So from this we ascertain that we have achieved our initial aim.



*Pupils particularly enjoyed seeing themselves on the 5R cards*

Our second aim was to produce a working wall display that the children could look at and use to make them more Resilient and

independent. We have found that the children do look towards the wall, which serves as a reminder as to how to tackle 'stuckness'. The children particularly enjoy seeing themselves on the 5R cards on the table and have made positive comments about them.



*The learning mats have helped the children to be more confident and use more complicated language*

When we decided to produce these mats we did not expect to spend so much time making them and adapting them. It has proved to be quite an expensive resource as photographs have to be updated, words added and improvements made to individual mats and table cards. All the mats are in colour and have been laminated to be more hard wearing. This too is an added expense that we considered necessary in order to make the mats more appealing.

The benefits however show that the children enjoy their written work more now that they feel more independent. They are showing more confidence when attempting to spell new words or try to use more complicated language. The benefits to the teacher are that we have more time to spend with small groups of children without as much interruption from the rest of the class.

Some of the negative effects that we have found were that some of the children got frustrated if words could not be found on mats or they could not read the words in order to copy them and they were

disturbing other children who were trying to work independently. It has also been very difficult to prove that the mats are improving standards but certainly there is a more positive atmosphere in the classroom that the teachers can vouch for.

#### Extensions and Changes to the Method

The 5Rs 'new words' were found to be very useful but could not be seen when working without mats therefore we now have permanent displays in both classrooms showing the 5Rs in child friendly terms for easy visibility when stuck.

We will have permanent display of the 5Rs on each table in the form of a table display card

We intend to devote a half hour each week in our target classes to discuss what the 5Rs are and how they relate to our learning.

The mats were quite an expensive resource to make so we had to be sure of their content before making them.

They are also time-consuming to make, especially if mats are to be personalised.

From questionnaires given to the children at different times of year, results show that they think the learning mats are useful and they have become more independent in their writing.

## CONCLUSION

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### Developing this Approach

As we have tackled this process as a continually changing project, we are quite happy with the results we now have but just need time to let them be in use for a longer length of time. Adaptations have improved and are now more 'Early Years friendly' because we adapted the language used in the 5Rs so that all our children

understand what they mean. We now have plans to introduce the mats and tabletop photos to all classrooms but as we only work in an infant school, our large scale plans are quite small. Collaboration with our junior school could result in introducing the project to them. The mats are completely adaptable and therefore could work with all age groups.

Our initial L2L strategies were to be Resourceful and Remembering. These strategies have not changed although others now are more prevalent than before. As a consequence to all this hard work and success we have arranged three INSET training days for the rest of the school staff to develop and encourage whole school participation in the project.



*As part of this project a valuable teaching resource has been developed that the children find useful and enjoy using*

### Summary

In summary, the three most important impacts of this project are that we have a very valuable and personal teaching aid/resource that the children enjoy and find useful. Teachers using the mats and tabletop pictures have found that their children are working more independently because they now have procedures in place to activate when stuck thus enabling

the teacher to spend more quality time with a small group of children without being interrupted. We also believe that the children are in the process of becoming life-long learners as they understand their own ways of learning and have strategies on hand to help themselves when stuck.

The project has been successful on the whole and there is potential for the project to grow much further, but we have found massive constraints on time given to the project which impacts on the teachers' already huge workload. Until the rest of the school can see concrete evidence of improvement and benefits of an expensive and time-consuming resource, it will not be credited with the value that it deserves. Continual developments will promote the project to its full potential.

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