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Teacher engagement in the research process

Ever since Lawrence Stenhouse’s seminal work An introduction to curriculum research and development (1975), teachers have been encouraged to actively engage in research to inform their classroom practice. Stenhouse advocated that curriculum research and development should belong to teachers, and rather than passively accepting changes in practice, they should critically test them, seeing their classrooms as ‘a laboratory’ (1975: 142). Engagement in research and development can lead to the betterment of schools, but also the betterment of teachers, through progressively increasing understanding of their work and therefore improving their teaching (Stenhouse 1975: 143). In the ensuing four decades, there has been increasing evidence to suggest that teacher engagement in research is beneficial for teachers, for the schools they work in, and for the teaching profession more generally (see, for example: Hagevik et al, 2012; Hall, 2009)

Teacher enquiry

There are many ways to define teachers’ involvement in research, for example: teacher research; classroom research; practitioner research (Borg, 2013). The term that we use here, however, is teacher enquiry.

Teacher enquiry is defined as education research which focuses on the problems that practitioners come across in their classrooms and the actions they take to solve them (Winch et al, 2015). Teacher enquiry involves exploring an area of interest in a systematic way. It is about collecting and reflecting on evidence (including professional knowledge) in order to make changes and bring about positive change. Teacher enquiry is often collaborative, where the sharing of practice and the critiquing of evidence leads to new ways of seeing and understanding issues. Teaching, rather than being ‘a combination of a storehouse of knowledge and a mastery of pedagogy’ is seen as ‘an ongoing enquiry’ (Mason, 2009: 206).

Teacher enquiry can then become ‘a way of being’ (Winch et al, 2015: 207), an ethos that supports personal, political, and school improvement purposes (McLaughlin 2004).

The importance of engagement in teacher enquiry

There are many benefits associated with engagement in teacher enquiry; the list below highlights some of them (from Elliot and Sarland, 1995: 372):

- Enables teachers to bring about changes in pedagogy and curriculum that ultimately improve students’ learning experiences;
- Improves the quality of discussion around educational problems and issues in schools;
- Encourages teachers to work together on curriculum design;
- Improves the use of findings from research in schools;
- Brings research closer to practice and allows teachers to make original contributions to knowledge;
- Leads to the generation of closer-to-practice research methods and methodologies;
- Allows teachers to develop their own theories that underpin their practice;
- Encourages ongoing professional development;
- Encourages schools to become learning organisations
- Empowers teachers to respond to external educational change;
- Enables teachers to account for their practice in ways that are open to public scrutiny and debate.

Equally, engagement in teacher enquiry contributes to the development of a professional culture: ‘where teachers read, understand and undertake research themselves [which] is a vital and necessary part of the process of developing teaching as an evidence-based profession’ (Furlong & Salisbury, 2005: 81).

**Enquiry + - an initiative to support teacher research**

As noted above, teacher enquiry has a long tradition in UK schools; support and facilitation of this kind of practice-based research is sometimes provided by higher education institutions (Greany & Brown, 2015). It has been noted that partnerships between teachers and professional researchers will become ‘increasingly important to ensure a mutually enriching relationship between education research and educational practice’ (Winch et al, 2015: 212).

The University of Hertfordshire has provided support for teacher research for many years. The Enquiry + initiative aims to create and support a community of education practitioners who use enquiry to improve and develop practice in schools.

Our view is that enquiry is research, but it is learning and finding out for a clear purpose – to change and improve practice in schools in a sustainable way. Action is undertaken based on research. Projects are run intelligently, with measured baselines, and a focus on impact. Successful change becomes embedded in school practice through sharing learning within a practitioner’s own school. Collaboration across schools establishes a learning community where learning is disseminated and also sustained over time as more and more practitioners are drawn into the activity.

The University of Hertfordshire supports the enquiry process by offering participants a structured course on practitioner research including sessions on: formulating research questions; data collection methods and data analysis; identifying findings and sustaining project outcomes; dissemination and impact evaluation. In addition, each participant is visited within their school to discuss their projects in more detail and the University hosts a celebration event at the end of the programme to disseminate findings, develop networks, and encourage further collaboration.

**The West Hertfordshire Teaching Schools Partnership**

Over the last academic year, colleagues have been involved in classroom-based enquiry projects aimed at practice enhancement. The initiative has been supported by the University of Hertfordshire in collaboration
with the West Hertfordshire Teaching Schools Partnership and each of the participating schools has carried out a small-scale research project.

We are pleased to be able to share these research projects with you here in this publication.

- **Louise McCann** – Grove Academy – evaluates the introduction of ‘story scribing’ into the early years’ curriculum.

- **Jessica Young** – Hammond Academy – shares findings from an evaluation of introducing *learning without limits* through challenge boxes for mathematics in all primary classes.

- **Liz Ormonde and Katie Savva** – Micklem Primary School – report on research into developing Growth Mindsets through schemes of work.

These projects have all demonstrated impact within their own contexts. We hope that in sharing them, they will inspire others to carry out similar projects and to engage in their own teacher enquiry.

**References**


Introduction

The Grove Academy Early Years (EY) has an eighty place Nursery and three Reception classes. Improving the phase’s Good Level of Development (GLD) in the Early Years Foundation Stage Profile (EYFSP) has been an improvement focus since it was introduced in 2012. We have celebrated a two year upward trend in GLD attainment with 44% in 2014 and 51% in 2015.

Improving attainment and progress in writing has been a key focus of our Academy’s school development plan throughout 2013-2014 and 2014-2015. From January 2013, Read Write Inc. (RWInc) was introduced throughout the EY and Key Stage 1. Dramatic improvements were seen in the phonic ability of the cohorts leaving the EY. In 2014 58.3% left Reception at Age Related Expectations on the RWInc scheme and this was increased to 90.7% in 2015.

Following moderation and analysis of the EYFSP, our next step in improving literacy provision within the phase was identified as child initiated writing. A lack of evidence of child initiated writing across a range of different genres was the biggest barrier preventing children with age related phonic abilities from achieving the writing Early Learning Goal (ELG) in the EYFSP.

During professional development training ‘Outstanding Reception’, led by Anna Ephgrave, I was introduced to the concept of ‘Story Scribing’ as an effective child lead approach to teaching early writing that allowed for creativity. In her book ‘The Reception Year in Action’, Ephgrave (2013: 49) outlines the principles of story scribing:

Early in the autumn term we actively seek out children who are keen to do this. They dictate their story to an adult and it is recorded exactly as it is told (without any corrections of grammar etc.). We do tend to limit the length of the stories to one page, purely for time-management reasons. Once the story is finished, the child will often want to illustrate it, and then it is pegged up near the graphics area for safe keeping. During a carpet session the children sit in a semi-circle, to create a 'stage', and the adult selects children to be the characters in the story (usually including the author) and they act out the story as the adult reads. Once the children see the performance they are then keen to write their own stories, and then the activity spirals, with stories being dictated and acted on a daily basis.

The link between child initiated writing fostering creativity and a passion for story writing was the most exciting. Ofsted had questioned our creativity, our May 2014 report stating that work did ‘not consistently capture the children’s interests’ (Ofsted, 2014: 1) and the general opinion within the phase was that the teaching of literacy was too adult directed. Continued professional reading around the topic led me to the work of Vivian Gussin Paley (Dowley McNamee, 2005; Cooper, 2005). Could story scribing improve engagement in child initiated writing and increase attainment for the children at the Grove Academy?

1 http://www.ruthmiskin.com/en/
Research aims
The research explored whether Story Scribing could increase attainment in EY literacy. Its aims were to:

- Assess current provision of reading and writing. Focusing on the balance between adult-led and child-led teaching and learning. Would an increase in the amount and quality of child-led provision through Story Scribing increase attainment?
- Increase staff knowledge in and engagement with an effective creative and child-led approach to teaching early writing.
- To assess the impact of Story Scribing on Pupil Premium Grant (PPG). This was a vulnerable group which experienced a significantly drop in GLD attainment in EYFSP 2015 of 27%.

Context
The Story Scribing project was launched in all 5 EY classes (n=143) during National Storytelling Week (1st February 2016). Most of our children enter working below Age Related Expectations, with low literacy baselines and an under-developed physical strength to write. From the EYFSP 2014, the attainment of Pupil Premium Grant (PPG) children was also a concern. Therefore, we decided to track selected focus PPG children to try and measure the impact of the initiative on them as a vulnerable group. We chose National Storytelling Week as a more fluid timetable allowed us to create sense awe and wonder around the new initiative. Story scribing stations were set up in each room and all staff trained in how to engage in effective story scribing. Non-negotiables for the project were created, in line with Ephgrave’s (2013) work and shared with all staff.

Non-negotiables for story scribing teaching and learning:

1. Always be available to scribe if a child asks. (limit story to one page for time management)
2. Write on lined paper, leaving a line space between each line for editing.
3. Use your knowledge of the child ability to invite them to write what is appropriate (initial sound, a ‘red’ word, CVC word) BUT never force.
4. Write exactly what is said, grammatical errors and all.
5. Editing: Keep reading the story back. Read with no punctuation and ask if the child is happy. If they are not ask them what they want to change.
   For example: “Oh you want me to stop for a little bit and take a breath” - I will put a full stop in.
   “You want me to shout that” – I will write it in capital letters then"
6. Always edit in green.

Non-negotiables for Story Scribing provision:

1. Separate, dedicated area, a story scribing hat or cape, lined paper, writing pencils, green pencil for editing,
2. Place to display scribed stories at child’s height to show they are valued.
3. Time in timetable to act our scribed stories at story time.
Methods
The research focused on the EY with all Nursery and Reception classes involved in the project. Following a significant decrease in the number of PPG children achieving in GLD in 2014 compared to 2013 (27%), 9 focus PPG children were identified and their progress within the Story Scribing project tracked individually as well as part of the year group cohorts.

The research drew on both existing data and empirical data.

Existing data
1. Baseline and exit data:
   Year group cohorts: Previous EYFSP results 2015 provided baseline of Literacy attainment.
   PPG focus children: Baseline of attainment using Early Years Outcomes (EYO) to be taken at start of project.

   EYFSP results will provide exit attainment data for year group cohorts and focus PPG children.
Empirical data

1. **Baseline Focus Groups:**
   In January 2015 I carried out two twenty-minute focus groups to gather pupil and staff opinions on our current early reading and writing provision within the setting. The first was with nine Reception children. These were chosen by class teachers as children who would be happy to express their opinion. The second focus group was with EY staff. One teacher and one teaching assistant participated. Both groups were asked the same questions.
   - How do we learn to read and write?
   - What words show how you feel about stories and writing?
   - Draw a picture showing what you do or do not like about reading and writing?
   - Can you tell me about your picture?
   - How could we make stories and writing better?

2. **Exit Focus Group:**
   In June 2016, following the low participation in the adult focus group I instead sent out a form which requested adults ‘final thoughts’ on the project. Ten adults across the phase participated. They were asked to give their opinion on the projects original research aims along with any additional comments.

3. **Story Scribing Learning Journals:**
   Throughout the project both class cohort and individual (focus PPG children) Story Scribing Learning Journals were made. These hold a collection of scribed stories in chronological order. These will show the progress of writing throughout the project.

**Key findings**

**Baseline**

Literacy was our lowest attaining area of learning in our 2015 EYFSP results

<table>
<thead>
<tr>
<th></th>
<th>GLD %</th>
<th>Literacy ELG EYFSP: Expected + %</th>
<th>Literacy ELG EYFSP: Exceeding %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>50.6</td>
<td>51.9%</td>
<td>7.8%</td>
</tr>
</tbody>
</table>

*Table 1: EYFSP results*

**Baseline of PPG focus children:**

All children were working below Age Related Expectations on entry to Reception in both Reading and Writing.
Pre-initiative views of reading and writing

Children

Most of the children (n=7) reported that they enjoyed adult-directed phonic sessions and most (n=9) said that they did write during their Child Initiated Play (CIL). The two children who said they did not write during CIL were boys and they gave the following reasons as to why not:

“I like to go outside and play football”
“I don’t like writing but I do like doing my target with my key worker. I have to write stuff that makes sense”

Six of the children said that they did read during CIL and when asked to draw the picture all children chose to draw themselves reading. Half depicted reading with parents and half reading at school. In their comments all children spoke about reading with a parent and one comment depicted the opinion that stories were undervalued in class.

“Me and Mummy reading at home”
“Me and my Dad sitting there at school”
“We have stories at home time……. when it’s not really home time, we have story then”

Most of the children (n=7) reported that they did enjoy adult directed phonic sessions.
Adults

All adults enjoyed teaching adult directed phonic sessions but one expressed the opinion that it was ‘repetitive’. All adults recognised that improving reading/writing CIL provision was important to the phase’s development of literacy provision.

- “We need to develop our CIL provision so that children want to write and are actively engaged in it during CIL”
- “Tends to be the boys who do not engage in extra reading/writing”
- “Must be led by the child’s interests”
- “What about the children that RWInc doesn’t work for?........these struggle the most”
- Is it challenging? “Starting to be”

When asked to draw a picture all of the adults chose to mind map their thoughts. Echoing the children, their thoughts were solely on reading.

“Mostly me (teacher) at the front”
“Guided reading is rushed”
Children are “excited about the library, choosing books. Children also like using the book box” (class library).

Conclusions and implications for practice

To draw effective conclusion as a phase we returned to the research aims of our project.

- Assess current provision of reading and writing. Focusing on the balance between adult led and child led teaching and learning. Would an increase in the amount and quality of child led provision with Story Scribing increase attainment?

Analysis of the attainment of the Literacy ELG in the EYFSP shows the positive impact of Story Scribing within our setting. With the percentage of children achieving Expected + increasing to 63.9% (12%) and the percentage of children attaining Exceeding than doubling to 15.9% (8.1%).

The Story Scribing Learning Journals created through the project also progress. Focus child’s T’s personal journal shows progress from a fully scribe story to one independently written and edited.
**Figure 3: development of story writing**

**Princess Daisy and the Evil Witch**

Once upon a time there was a princess called Darcy. She was brushing her teeth and then went to bed and then she saw the evil witch! The witch took her to the witches castle and the prince was a frog! The witch turn him to a frog and the prince was not very good at jumping and croaking.

**The end**

**The mermaid princess**

Once upon a time they lived a mermaid princess she saw a ma sum pris she was saw the pris saw the pris thought the mermaid

**The end**
All of the adult ‘final thoughts’ reported a positive impact:

“The children love acting out the stories that were scribed ……or they have written. We struggle to have time to do them all!”

“More writing happens now; the children choose to write more”

Key themes were found in the adult ‘final thoughts’. The importance of allowing the children ownership of what they write an increase in children’s use of story language and the introduction and embedment of the process of editing.

“The children are much more engaged because they are writing about what they want to write about and story time is more fun because they have ownership…and they are active, acting it out”

“Many children now use story language naturally in play. ‘Once upon a time’, ‘long ago’ and ‘happily ever after’ are firm favourites!”

“We never edited before, my class enjoy this process and children realise it can improve their work and make their stories more exciting when read aloud”

“The children are always using green pens for editing, even when they are not engaged in Story Scribing”

Some (n= 4) referred back to the work of Ephgrave we used as the starting point for the project. Realising the importance of a child led approach to learning and the power of writing for a purpose.

“What we followed, the rules from Ephgrave are simple really. They allow children to write what they want so they want to write”
To assess the impact of story scribing on Pupil Premium Grant (PPG). This was a vulnerable group which experienced a significantly drop in GLD attainment in EYFSP 2015 of 27%.

Exit data PPG focus children

<table>
<thead>
<tr>
<th>Literacy</th>
<th>Reading:%</th>
<th>Writing:%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Exit</td>
</tr>
<tr>
<td>Working below Age related Expectations</td>
<td>100</td>
<td>44</td>
</tr>
<tr>
<td>Working at Age related Expectations</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td>Working above Age related Expectations</td>
<td>0</td>
<td>12</td>
</tr>
</tbody>
</table>

Table 2: exit data PPG focus children

EYFSP data also shows an increase in the percentage of children achieving GLD of 18% (36.8%)

Adult ‘final thoughts’ on the impact of Story Scribing here were also very significant. They questioned the ability of the initiative to engage the most reluctant writers, especially boys.

“I had to ask K to write a story with me every time. He did not choose to engage, even after experiencing no pressure to write. I think having a ‘station’ doesn’t help; K wants to be playing with the construction. I have started to use a clipboard and write a story about what he has made, he enjoys this more but still will not ask”

“I want it to be mobile, I want to scribe the stories they are acting out with the small world, the two shouldn’t be separated. I am going to the children.”

Most (n=9) Story Scribing Learning journals kept for class cohorts and the focus PPG children show progress in the children’s creativity in writing and/or their phonic abilities.
Figure 4: learning journals showing progress in phonics and creativity in writing
Assessing the impact of the project has identified clear next steps for our phase.

- **Action 1: Make Story Scribing mobile.**

Concerns over the ability of the initiative to engage the most reluctant writers, particularly boys, led to questioning the provision. Story scribing will become mobile and taken outside.

- **Action 2: Develop literacy provision beyond RWINC.**

Although initially one of our concerns was the balance of adult led and child led literacy provision, both adult and children focus groups expressed enjoyment of adult led learning. Perhaps we need to continue to adjust the balance in our provision; developing regular adult led literacy sessions that allow for child exploration and that are led by interest have been identified as essential next steps.

**References**


LEARNING WITHOUT LIMITS

JESSICA YOUNG, HAMMOND ACADEMY

Introduction

“Grouping by ability holds children back” argues head teacher Alison Peacock (2012). This was an idea that I wanted to explore to see if children are put into ability groups for activities, does this hinder their learning and affect their self-esteem. Hammond wanted to launch learning without limits to give the children ownership over their own learning and give the learners more responsibility. Due to mathematics being on our school development plan, I decided to focus learning without limits in mathematics lessons to begin with and then if this was a success, we will incorporate it into other areas of the curriculum. I thought it would be interesting to observe how attitudes towards mathematics would change if the style of teaching was adapted and whether this way of learning would give children a more positive mindset towards their own capabilities and independent problem solving.

Research aims

- To launch a new way of teaching mathematics across the school
- To see if children can change their attitude towards mathematics by having more control over their learning.
- To uncap learning across the school.

Context

Our school has a variety of abilities across the year groups with a large majority of pupil premium children. Our Hammond values refer to being a resourceful, responsible and independent learner, which the children understand; however, they were not always given the opportunity to facilitate this way of learning. I wanted to create an environment free of capping learning and grouping children in ability groups, which, it is argued, can affect their self-esteem and performance during lessons. Can the way of teaching reform the children’s attitudes towards learning and also improve attainment? Hargreaves (1982: 62) argues that ability labelling leads to ‘destruction of dignity so massive and pervasive that few subsequently recover from it’

Methods

During this research project I wanted to do a baseline assessment before the project was launched to gauge how the children and teachers feel about their learning and then carry out different activities throughout the year to see changes occurring.

- I carried out a pupil voice with fourteen children from reception up to year 6, I read out questions which had a multiple question answer, I recorded what they said to gain an insight into how learning takes place in their classrooms. This data was used as a baseline before learning without limits was launched. I planned to meet with these children again in the autumn term so see if their views on maths had changed and their attitude towards their own abilities.

- I led a staff meeting to explain how learning without limits should look in the classroom, as a team we came to an agreement of three choice of challenge ‘tricky, trickier, trickiest’, there was also a ‘brain buster’ ultimate challenge which focuses on the mastering technique. This staff meeting allowed there
to be consistency across the school and clear format to how the lesson should look. There were questions raised about whether the children would be able to choose the appropriate activity for their ability. As a staff we agreed that the children must move on to the next challenge if they are able to do the first four questions with ease. If they are finding the first two questions too hard they are able to choose an easier challenge. This was monitored in lessons and through marking, during feedback for learning the teachers would discuss with the children about whether they could challenge themselves more during the lesson.

- I distributed a staff questionnaire to all teachers and had fifteen returned to find out how learning without limits looked in their classes and any problems which arose, all teachers were happy with the progress the children were making and the independence of the children choosing the correct activity.

- I carried out a final pupil voice with fourteen children using the same questions and the same children to see how the children’s attitudes had changed towards mathematics and whether they were being challenged in their lessons. The data was compared to the previous pupil voice to see whether learning without limits had been successful.

**Key findings**

**Pupil Voice – Autumn**

![Graph](Figure 1: findings from first pupil voice)

From the pupil voice you can see that the children did not feel they were being challenged in their lessons or have the freedom to choose their own activity. It was evident when talking to the children that their attitudes towards maths did not appear to be as positive as we thought. There were a mix of views on whether they found maths enjoyable and if they felt there were a variety of activities set each week. As you can see from the graph 7/14 children enjoy being challenged which highlighted the importance of changing the structure of our lessons to allow the children to master mathematical techniques. 6/14 children stated they did not understand what they were learning, this was a question I proposed to the staff, could this be because the
children had been grouped into abilities but did these groups change according to whether it was a shape and measure based activity or number?

**Pupil Voice – Spring**

![Figure 2: findings from second pupil voice](image)

In March our link governor to research and development went on a learning walk around the school and created a report, she said:

“I was able to observe the teaching staff across the year groups use the various challenge terminology, using “tricky, trickier and trickiest” (Year 2 and 3) and “starting at, brain teaser, brain buster, brain melter” (year 4)

She also spoke to a variety of children who said;

“I am good at Maths, so I have chosen to do the trickiest because sometimes I find it too easy” (Year 2)

“I choose trickier as tricky is too easy and then I move to the next level if it is easy.” (Year 3)

“It is not fair to be told to work at a particular level, it is good to choose which level to work at which is more fun.” (Year 3)

Pupils were able to explain why they had chosen the level of challenge and would further explain how they would choose a different challenge if they found the level they were doing too easy or difficult. The pupils were really positive about the new way of learning and all year groups talked about having ownership over their work which made learning fun. (Mhairi – 14/03/16)
Analysing the data

As can be seen from the two graphs, there has been a significant shift in attitude towards maths and the children are now feeling in control of their own learning which is resulting in a positive mindset towards their learning. In the autumn term the children did not feel challenged in maths and they felt they did not experience a variety of activities. From the spring term data, we can see that children are now able to see a difference in how the lessons are structured and they feel they are now challenged in maths, all fourteen children strongly agreed that they are challenged. After speaking with the children, one child commented on how they used to be “bad at maths” but now they are able to do all the challenges set and they feel “proud”.

In some classrooms children can be banded in ability groups, which follows them through their school career, however through learning without limits we have given the children a platform to attempt activities which they may not have been given before and giving them the chance to work with different peers depending on the activity. As teachers felt this way of learning was successful learning without limits is now occurring in all subject areas where possible which is encouraging to see.

What learning without limits looks like in our classes

<table>
<thead>
<tr>
<th>John had 12 sweets, he gives 1/3 of them away. How many sweets did he give away?</th>
<th>James has 18 pens, 2/3 of them go rotten. How many go rotten?</th>
<th>Jill has 30 pens, 5/6 of them run out. How many pens does she have left?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tricky</td>
<td>Trickier</td>
<td>Trickiest</td>
</tr>
</tbody>
</table>

Brain melt! Use a pictorial method to show your answer.
“On the whiteboard there is tricky, trickier, trickiest and a challenge in red which is the brain buster. I’ve got through all the challenges before and the brain buster, I felt really proud” – J (year 6)

“In our classroom you would find us thinking accurately” – E (year 3)

“I prefer the new way we do maths because you can choose your own challenge, I challenge myself more now” – R (year 3)

“maths is brilliant” – L (reception)
Conclusions and implications for practice

From the evidence I have collected it is clear that giving the children the freedom to challenge themselves and become more resilient learners has a great impact on their attitudes and self-esteem. It appears that capping their learning gives can be detrimental to their progress which Alison Peacock argued. From the success of this research project the staff are now committed to having learning without limits in all their subjects (see Figure 3). This has shown that children are capable of assessing their own abilities and taking responsibility for moving their own learning on, they do not need to be told which activity they can do, they are able to try different activities and as the evidence suggests, this has turned “bad at maths” into “I feel proud”.

Moving forwards, we are committed to:

- Allowing children to have ownership over their own ability
- Freeing learning by giving children choice

References


Introduction

Since 2012 Micklem School has sustained rapid growth in terms of progress and attainment however it had been noticed that the children still lacked the skills of meta-cognition and a growth mindset approach to their learning. In a school that was aiming to become outstanding it was important that the children understood how they learnt and that they had the confidence to challenge themselves, deepen and broaden their learning. Broadening, deepening and mastery are a significant part of the new curriculum 2014. The senior leadership team had looked at the OFSTED requirements for outstanding as part of their strategic planning and felt that we needed to move further towards: “Pupils are confident, self-assured learners. Their excellent attitudes to learning have a strong, positive impact on their progress.” (Ofsted, 2015: 52).

The work of Carol Dweck played a significant part in forming the rationale of the project. Carol Dweck, psychologist at Stanford University, has spent decades researching achievement and success. Dweck (2012: 6) states in her book Mindset- How you can fulfill your potential that her research has shown “that the view you adopt for yourself profoundly affects the way you lead your life” She describes this view in terms of ‘mindset’. “The fixed mindset- creates an urgency to prove yourself over and over” (Dweck, 2012: 6). People with a fixed mindset believe that intelligence is given and that although you can learn new things you can’t change how intelligent you are. A “growth mindset is based on the belief that your basic qualities are things you can cultivate through your efforts. Although people may differ in every which way- in their initial talents and aptitudes, interests or temperaments – everyone can change and grow through application and experience” (Dweck, 2012: 7). The key message we have taken as a school from Dweck’s work is that effort is what brings about growth combined with the belief that mistakes help us to learn.

Guy Claxton (2005) and his work on building learning power helped form the basis of the school’s approach to meta-cognition through the use of our learning powers; resourcefulness, reflectiveness, perseverance and cooperation. Professor Guy Claxton has carried out much research on “creating a climate or a culture in the classroom and in the school more widely that systematically cultivates habits and attitudes that enable young people to face difficulty and uncertainty calmly, confidently and creatively.” (Building Learning Power website) Many schools adopt Claxton’s Building Learning Power approach through the use of “the ‘four Rs’ – Resilience, Resourcefulness, Reflectiveness and Reciprocity”. We adapted this to our own setting by focusing on our key learning powers of ‘cooperation, reflectiveness, resourcefulness and perseverance’. The children had been introduced to these through a range of super hero puppets over the previous year (see below). Pippa Perseverance, Captain Cooperation, Rocky Resourcefulness and Rex Reflectiveness
Teachers and support staff were encouraged to refer to the learning powers needed in lessons and the celebration assembly was changed to value learning powers thus highlighting them to the parents. Staff had been introduced to the principles behind Carol Dweck’s work in January 2015 and this was revisited in September 2016 however many staff had not remembered what ‘fixed’ and ‘growth’ mindset was.

As developing meta-cognition and a growth mindset approach to learning was a key part of the school improvement plan we decided that a more strategic approach was needed. The research project was based on the rationale that if learning powers were taught alongside a growth mindset in a discrete way, there would be a bigger impact than previously when the enthusiasm of individuals made the difference. The Sutton Trust-EEF Toolkit (2016) also suggested that a ‘Meta-cognition and self-regulation’ approach gave high impact for very low cost, based on extensive evidence. Their evidence suggested that pupils made on average eight months of additional progress, with these strategies being particularly effective for low achieving and older pupils. It was decided to develop a scheme of work, with resources that would enable teachers to teach the skills of meta-cognition through the learning powers. The scheme explored different concepts relating to brain structure, persistence, cooperation and the importance of making mistakes to improve your learning potential.

Alongside this scheme of work we had also found the work of Dame Alison Peacock and her approach at Wroxham extremely interesting. Several members of staff had had the opportunity to visit Wroxham School and see this approach in action. The pedagogy is based upon not grouping children by ability but letting them differentiate independently and select their level of challenge. The story of Wroxham starts with a school that was put into special measures and through the consistent endeavours of the staff to provide children with exciting learning opportunities and the strategies to challenge themselves children can become independent and resilient learners who are thirsty to achieve their best. The attainment and progress rose rapidly from teachers giving children the freedom to extend themselves. A large part of the ethos at Wroxham is around cooperation. Children successfully work in groups and are eager to work with a peer to investigate and find out how to improve their learning further.

In our Year 5, the class teacher had already been employing this concept which had visible effects upon the children’s progress and independence in their learning. Based upon reading Creating learning without limits (2012) it was decided to cascade this approach across the whole school as a new approach to challenge and differentiation across all subjects. Reading Creating Learning without Limits and having talked to staff who visited the school it was decided to adopt the ethos of providing children with opportunities to select their own challenge and cultivating an atmosphere where mistake making is a positive, children can lift limits on their learning and reach new potentials. The staff have been embedding this approach which is in the early stages of deployment.

The project is important to Micklem School as now more than ever it is vital for children to understand how to learn and in particular how they learn best (metacognition). This would provide them with skills for an unknown future that requires flexibility and adaptability. It was important for the school to enable children to believe that they could learn anything. The project also contributes to a key part of our school development plan and the ethos underpins all that we do. We believe that developing meta-cognition skills and a growth mindset is key to us being successful in our use of self-differentiated challenge.
Research aims

- To have an impact on both children's attitudes to learning (how they view themselves as learners) and on their rate of academic progress
- To deliver a scheme of work based on growth mindset and self-regulation

Context

Micklem School has grown significantly in numbers since the arrival of a new Headteacher in 2012 and is now nearly full. The school has moved rapidly from OFSTED grading 'Requires Improvement' to 'Good' in 2014 and the school is highly ambitious in its aim to become an outstanding school. Micklem School has a higher than average number of pupils in receipt of Pupil Premium (43%) when compared to the national numbers (26%). Pupil premium is additional funding for publicly funded schools in England which aims to raise the attainment of disadvantaged pupils and close the gap between them and their peers (Education Funding Agency, 2016). The school had been working on learning powers and growth mindset for over a year so it was decided that we would initially collect our data on a whole school level. We believed that a 'before' and 'after' approach would demonstrate the impact of teaching growth mindset. The project was introduced to the teaching staff in January 2016. The subject content was not new and we believed we already had provided a foundation from which to build. Evidence already gained from classroom observations, discussions and other monitoring activities suggested that 'buy in' was varied. We knew that the influence of teaching and support staff was key. The scheme of work was designed to provide every teacher with resources to deliver specific teaching to their class and that the impact of growth mindset would be more consistent across the school. Teachers were encouraged to adapt the scheme of work to their class but they could use it also as an 'off the peg' resource. During the INSET the rationale behind the project was shared and opportunities were given to teachers to discuss the action research. Each class teacher was provided with an attractive notebook in which to record their own reflections. Staff were provided with the scheme of work plus all the resources needed to deliver this – children’s story books, links to videos, games and activities.

Methods

In our strategy for data analysis and interpretation we used the following sources of data. These included teacher reflection, mindset survey, questionnaire, final questionnaire, focus group and specific focused analysis.

- The mindset survey was undertaken at the initial presentation on our INSET day. A group of nine teachers were asked to complete a questionnaire which then gave a mindset score. This was for the teachers’ own personal use and was for them to see where their mindset was on a scaled score. The results were collated anonymously.
  - We decided to use a questionnaire approach with a simple ‘yes’, ‘no’, ‘don’t know’ approach which would provide a score for each answer. We wrote our questions to elicit responses connected to a growth mindset outlook and to our learning powers.
A pilot questionnaire was tested out on a group of six children, one each from years one to six. This was done to ensure that the children’s comprehension of the questions. One of the questions was changed following the pilot. The pilot was carried out in the form of a discussion group and the discussion was around the meaning of each question.

- Children in every class from Reception to Year 6 were given the surveys by their class teachers. Our ethical consideration was to ensure that the data was stored securely. No child was forced to undertake the questionnaire.
- We redid the questionnaire in March having given sufficient time for the scheme of work to be delivered in class.
- We found that the initial questionnaire was not appropriate for Reception children and it was decided that we would not use this method to measure any progress in meta-cognition and mindset in the Reception class.

**Key findings**

- The overall mindset score for Teaching Assistants (0 was fixed and 7 was growth) was 4.2. For the teachers the overall score was 4.3, demonstrating that school teaching team had a mindset that was more growth than fixed.

- The results from the questionnaires were input into a spreadsheet for each class and totaled for the whole school.

- Specific focused analysis of the results was undertaken of our initial results.

- Following the final results specific focused analysis lead us to run a focus group to gather more data on two of the learning powers
Initially we were disappointed with our results as they did not demonstrate any impact of the scheme of work. However on closer analysis there were some positive shifts particularly with the learning power of cooperation, fewer children said they didn’t like learning in a group, ten as opposed to twenty three in January. This was also true in regard to perseverance; five children said they would not persevere if a task were difficult as opposed to ten children in January. What was also apparent from the data that more children used ‘don’t know’ as their answer. A question could be raised here for further investigation, ‘do the children have a greater understanding of learning powers but have not yet got the confidence in themselves to feel secure in answering the questions?’ Children who gave ‘no’ responses to questions around shared improvement and group work were selected to take part in a focus group to clarify responses from the
questionnaire. The interviews across Years 1-6 involved looking at the relevant questions and talking through responses to clarify that the children understood the questions posed.

Class data from Year 5 and from Year 4 demonstrated that these cohorts had great difficulty in working cooperatively and in being reflective. Further research was carried out through the use of a focused interview. Most striking were responses from Year 5 with majority of children's dislike for shared improvement of work and cooperative group working.

L ‘I just prefer to do my own work and make it better’.

I ‘I agree, I don’t like it. I don’t want someone telling me what’s wrong with it’.

J ‘I’m not good at working with my class I just like to work with my friends.’

A common theme in Year 4 was around editing work and using advice from the teacher to improve work.

The children in this group tended to dislike editing and not see the value and a few children commented that they didn’t feel that they got enough advice from their teacher.

A ‘MC doesn’t always get to me as he is talking to the other children.’

J ‘I don’t get editing- I like it when MC helps me with what I need to improve.’

In response to the comments from the focus interview we discussed these themes with the class teacher and the class teacher has been focusing on editing and shared improvement and ensuring that this is a positive experience. This is an area that we are all focusing on as a school. General classroom observations suggest that the children are becoming more confident in their editing skills.

**Year 5 Focus**

Having obtained two sets of data around Year 5 attitudes, this was shared with the class teacher.

The year 5 teacher adapted her provision and conducted her own action research as a result of the responses within her class.

The classroom was set up with seating in a large ‘u’ shape, the teacher’s rationale being that the children had to focus and engage as they were all looking at her and the front of the classroom. The children did work in pairs but as a cohort they disliked working in groups and the teacher had adjusted her practice accordingly. The teacher was interested in the results and volunteered to change the table layout so the children were working more in groups. The teacher also put a lot of effort into teaching cooperation strategies to the children. These included working with a learning partner rather than a best friend, more group work where the children were taught to listen to each other and to encourage each other to contribute. The class were resurveyed in June. Children who did not take the survey at the end of March were not used for the final comparison table. This ensured the data was a true reflection of any change in the class. The table below shows the changes in the children’s attitude to cooperation. What is most interesting is the change in the number of children who like working and learning in a group. This has increased from nine to twelve children. Fewer children answered no to the cooperative improvement questions ‘I feel confident helping my friend to improve their work’. Two more children felt they used the advice of their teacher to improve their work. However only five children liked it when their friend told them how to improve their work compared to ten children in March.
Figure 1: Changes in attitude to cooperation from March 16 to June 16

Feedback from teachers’ reflective journals

We read ‘The girl who never made mistakes’. Before even opening the book the children said – “how can she learn without making mistakes?” They knew that mistakes help them to learn and could give examples of this. The conversation went on for quite a while.

Figure 2: reflective journal entry

The evidence kept by teachers in their reflective journal demonstrated that they, as practitioners, were spending more time with the children discussing, reflecting and applying the learning as given in the scheme of work. Children in year one were noted in the reflective journal as being able to articulate brain elasticity as ‘getting a new star in their brain’. In three of the reflective journals teachers wrote about their class
understanding the concept of growth and fixed mindset. This even featured in a child’s extended writing when she wrote about another child reflecting and then adopting a growth mindset.

As part of the session around perseverance, the story I can’t do this… yet (Walton, 2013) was read to the children. The story struck a chord with the Year 3 class who regularly use this language to change their mindset. An observation of a child in the class who was struggling with a new concept was that they persevered by using the language card from the story that was on a display.

Similarly an example from Year 5 was where two children reflected on the story The Most Magnificent Thing (Spires, 2014). Here a girl tries to invent something but she is never quite happy with her invention. That is until she revisits the final product as an amalgamation of all of her attempts. The two children commented that this was similar to when they edited their work:

“You have to keep trying and changing it”.

Changing Classroom environments

Throughout the school, teachers supported the scheme of work by displaying growth mindset language in their classrooms. In this example the class Teaching Assistant was observed choosing the appropriate fixed and growth mindset signs and using them with children in order to support the children in using a growth mindset approach. Wherever the children were learning, including outside of the classroom, the signs were used.

Teachers also shared video clips of where children had selected their own level of challenge within a lesson. Most classes gave extremely positive feedback about this approach. The Year 2 teacher shared a clip where a child had selected challenge three but had found this too difficult so independently they made the decision to select challenge two. At a later point in the lesson this child attempted challenge three with a friend. Similarly in Year 5, given ownership of their learning, two boys who often struggle with engagement and motivation to learn, were observed fully participating in lessons and commented that:

“We like that you let us choose our challenges and don’t just tell us what to do”.
Conclusions and implications for practice

On reviewing our research aims, we were successful in delivering a scheme of work based on mindset and self-regulation. The short term results showed that there was a higher visibility in classrooms through the use of language and also classroom displays. There was a deeper understanding from children and staff. This has been demonstrated through the reflective journals, the language used when teaching and learning has been observed and examples such as the Teaching Assistant’s use of language as mentioned above. We believe that there will be continued reinforcement of meta-cognition as a result of the raised profile generated by the scheme of work.

The results of the questionnaires did not demonstrate a significant change in attitude in all areas. This may be because we have been working on mindset and learning powers for over a year and the children are already using them more than we anticipated. The questionnaire approach has been very useful in that it has given us a whole school picture of the children’s attitudes to mindset and meta-cognition. The research has highlighted some key areas for further action and research. The additional short piece of action research carried out in year 5 demonstrates that the spiral approach to action research is supporting the development of practice. The changes we are implementing in our approach to ability grouping and challenge has stemmed from our initial work on mindsets and metacognition. Having gathered the initial data through our surveys we will continue to use action research to support this approach. We believe that the full impact will be seen as children continue to develop their skills of meta-cognition.

Our next steps, as a result of the research, are to continue to embed the use of learning powers and further develop the growth mindset of the whole community. We hope that teachers will feel empowered to explore and investigate within their own classrooms. We would like to use the work carried out in Year 5 to encourage other teachers to carry out mini class based projects. Staff meeting time will be given to disseminate the impact of our action research and support will be given to staff to begin their own action research.

To maintain the momentum of the approach we have considered how we can continue to engage teachers, parents and governors. We aim to increase the profile of our work in this area through a governor and parent information evening. This will involve practical activities to highlight the potential impact to the children of developing these skills for their education and for their life beyond. Strategically our work in this area will continue to be a significant part of our school development. With the arrival of new staff our work will be shared during initial staff INSET training and new staff induction. New teachers will be paired with buddies who are familiar with the approach and can offer advice and mentoring. Our next steps are as follows:

- To ensure that the books and resources are revisited termly by all staff
- To continue to reflect, plan, observe and act on the data we have already generated
- To continue to develop and induct new staff in this ethos
- To continue to develop our learning community through more action research
- Begin to engage the wider school community in our work in this area
- To share our learning with other schools
References


Walton, K.J. (2013) *I can’t do this yet*, KJ Walton

Online resources

Building Learning Power available online on at: http://www.tloltd.co.uk/building-learning-power/

Learning without limits available online at: http://learningwithoutlimits.educ.cam.ac.uk/creatinglwl/

Mindset quiz available online at: http://www.edpartnerships.org/sites/default/files/events/2016/02/Mindset%20Quiz.pdf