



**The Federation of Blenheim Road Community Primary and
Coed Eva Primary Schools**
Growth Mindset



**Implementing the 'Learning Pit' to promote independence
and a positive attitude to challenge - a review of the strategies
involving all stakeholders.**

Research enquirers:

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Background Information

Blenheim Road Community and Coed Eva Primary Schools are situated in Cwmbran in the Torfaen local authority. Since September 2016, both schools have formed the Federation of Blenheim Road Community and Coed Eva Primary Schools. Both schools share the same executive headteacher and governing body. At Coed Eva Primary there are 488 pupils on roll, including 79 nursery pupils who attend the school part-time. There are 16 classes, including three mixed-age classes and one class for pupils with additional needs. About 20% of pupils are eligible for free school meals, which is similar to the Wales average. The school has 12% of pupils on its register of pupils with additional needs. This is lower than the Wales average. Most pupils are of white British ethnicity and a very few pupils have English as an additional language. A very few pupils speak Welsh at home.

Blenheim Road Community Primary school has 276 pupils, including 47 part-time nursery pupils. There are eight classes, including one mixed-age class. There is also a separate class for pupils who have additional learning needs or need additional support. The three-year average of pupils eligible for free school meals is around 35%, which is well above the national average of 19%. The school identifies that around 25% of pupils have additional learning needs, which is slightly above the national average of 21%. Most pupils are of white British ethnicity. A very few pupils speak Welsh at home or have English as an additional language.

Coed Eva Primary is currently a curriculum pioneer school and is working with the Welsh Government and other schools to take forward developments relating to health and wellbeing.

The executive headteacher and her senior leadership team have worked purposefully with staff, pupils, governors and the local community to establish a clear vision for the federation. This aligns with the four core purposes of the developing new curriculum for Wales and reflects the school's commitment to meeting the needs of its pupils within the national priorities in Wales. The federation has a clear leadership structure and all leaders have well-defined roles and responsibilities. One of the school development plan priorities is to reduce the attainment gap with those pupils eligible for free school meals.

Report of findings

1. Introduction

Known by many as the Learning Pit, the Learning Challenge created by James Nottingham is used around the world to promote challenge and inquiry, enhance dialogue and a Growth Mindset. 'The Learning Pit' is one way to make challenge and independence more appealing to learners. It gives a frame of reference to talk about learning. As a federation, we firstly decided to trial the strategy in the Summer/Autumn Term 2017 in identified year groups (reception and year 6). As a federation we wanted to place the learners at the centre of their own learning journey. Research has demonstrated, that engaging students in the learning process increases their attention and focus, motivates them to practice higher-level critical thinking skills and promotes meaningful learning experiences (Nottingham, 2014). We also wanted to foster a culture within school where learners are not afraid to challenge their own thinking and learning. In the first instance general pupil questionnaires revealed that 58% of students did not like having hard things to do in class (See Appendix 1 - Presentation Slide). Thus we hoped to prepare learners, in line with the new curriculum, to be ambitious capable learners ready to learn throughout their lives, which is one of the four core purposes of the new curriculum in Wales.

2. Key Objectives

At this time there does not appear to be any research conducted on this 'Learning Pit' approach to learning. Therefore pre dissemination it was significant to:

- Conduct a review the 'learning pit strategy' in identified trial year groups.
- Create a bank of strategies, to be used with a consistent approach through the school → Nursery – Year 6 to enable learners to 'climb out of the learning pit' and independently overcome challenges.

Identified success criteria for staff post training and implantation

- Developed confidence with taking on the role of the 'facilitator' in lessons rather than simply telling learners what to do.
- Developed range of open ended questioning techniques to facilitator learners learning.

(Thus, directly developing and impacting upon learners independent inquiry skills in terms of greater independence, enhanced level of dialogue and critical thinking skills.)

Identified success criteria for pupils:

- Developed Growth Mindset where they are not afraid to challenge their own thinking and learning
- Enhanced level of dialogue, inquiry and independence

- Greater attention, focus, motivation to practice higher-level critical thinking skills
- Enterprising creative contributors ready to play a full part in life and work
- Be resilient to their own learning.

3. Literature Review

Beliefs about the capacity to grow one's abilities is called implicit theories or mindsets (Haimovitz and Dweck, 2017). Children with more of a fixed mindset believe that they have a certain amount of ability and they cannot do much to change it. Children with more of a growth mindset, instead, believe that they can develop their abilities through hard work, strong strategies, and instruction from others (see Blackwell et al., 2007; Dweck & Leggett, 1988). These two beliefs are ways that children understand themselves, and they create different paths for learning (Plaks, Levy, & Dweck, 2009).

Qualitative analyses suggested that teachers who created growth mindset classrooms responded by discussing how struggle, effort, and negative emotions like frustration are natural and useful parts of the learning process and discussing why they are useful (e.g., "Confusion in math can happen and that. . .confusion can be beautiful"). Interestingly, they also seemed to frame this in terms of working together with students, sharing accountability for students' success (e.g., "Together we will make sure you master this"). In contrast, teachers rated to have more of a fixed mindset by their class put the onus on the student to solve the problem and work harder (e.g., "You have to be the one to put in the work to practice and study") (Haimovitz and Dweck, 2017).

Growth Mindset develops a culture of challenge and risk-taking in the classroom (Dweck, 2010). It allows for children to develop excitement and curiosity when facing a challenge in their learning (Dweck, 2010). Within this, it develops persistent learners that continue to face those challenges and build on their prior learning; this can be seen as a strategy for overcoming challenges in learning (O'rourke, Haimovitz, Ballweber, Dweck & Popovic, 2014) . This posed us with the question, what other strategies could be used to help children overcome their challenges in their learning? How can we encourage children to overcome these challenges independently?

The answer we found to this was the Learning Pit as it looks at the level of challenge and gets students to think about how best to overcome this challenge. It creates reflective learners that can unpick a challenge with support of their peers and other resources available to them (Nottingham, 2014). Developing the strategies for how children can move out of the Learning Pit is crucial to its success and makes being in the Pit the most important part of learning (Nottingham, 2014).

This idea is complementary to Donaldson's idea that children need to be embracing the intellectual challenge with confidence in order to build on what they have already learnt (Donaldson, 2015). This is outlined in one of the four core purposes as the new curriculum looks to create 'ambiguous and capable learners who set

themselves challenges and seek and enjoy challenges.’ (P.29 - Successful Futures). In order to prepare our children for embracing challenges, we felt it was important to unpick the strategies the children could use to independently overcome them.

4. Ethical Considerations

Ethical inquiry is an important aspect of being ‘research literate’. It is a key skill set which measures practitioners understanding of their own relationship with the inquiry itself (MEP, 2015). Alderson (2004), discusses the importance of thinking in a way that is driven by respect, justice, rights based and intended for the best outcomes for all involved. Working in an ethic of respect applies to both the researchers themselves and any individuals involved in research (BERA, 2011). To ensure we acknowledged this we:

- Ensured no students education was harmed in the process of the trial, whether in the trial classes or not, as this is a strategy is used alongside ‘normal’ teaching and learning strategies to promote inquiry, independence, challenge and develop learners Growth Mindset.
- Any pupil’s work or utterances via audio recordings that were collected during this project, were transcribed and anonymised.
- To avoid possible bias in responses from children, teachers did not interview their own students.
- Those teachers involved in the trial, offered to participate, and there has been no coercion by senior leadership.
- Our ethical considerations adhere to the BERA 2011 guidance.

5. Methodology

Our main aim was to conduct a mixed method study in order to gather a mixture of qualitative and quantitative data from a variety of different stakeholders. Data collection included:

- Questionnaires from both students and staff,
- Lesson observations in terms of the instructional core and,
- Semi-structured interviews with a sample group of students.

This combination approach to academic and social research meant that trends could be discovered through quantitative data and explained and reasoned through qualitative data (Neuman, 2013). Action research is cyclical notion which needs both forms of research/data collection in order to identify initial trends that require addressing. This information can then be utilised to understand the context and the reasons why (Brydon-Miller, Greenwood & Maguire, 2003).

Questionnaires

A questionnaire is an instrument for collecting data and nearly always involves a given subject to respond to a set of oral or written questions. We conducted a self-completion questionnaire with all students from Year 2-6 by using an online questionnaire tool. The questionnaire gathered information from a large audience however the data that it collected was limited on its own. It provided a picture of what the learners were thinking on the surface but did not explain why. (See Appendix 2 - Student Questionnaire)

Staff were provided with a written questionnaire pre-implementation of the Learning Pit in order to gather their initial thoughts, ideas and pedagogies related to challenge. The questionnaire was compiled of both written answers and multiple choice answers that allowed us to take into consideration staff's individual views and ideas. (See Appendix 3 - Staff Written Questionnaire)

Observations

Observations are a key form of data collection and can offer a mixture of qualitative and quantitative data and an observer can bring a range of contextual variables to the observation giving a wide range of data (Wragg, 2002). All observations were conducted and analysed in terms of the instructional core; the reason for this is so that the observer takes into consideration a range of viewpoints from the classroom, the pupil, the teacher and the content (Elmore, 2004). Observations were undertaken pre and post implementation of the learning pit in order to analyse learners attitudes to learning and their learning traits/ behaviours. Observations were conducted in Reception and Year 6. A sample group of 6 learners of varying ability was chosen as a focus group in order to gain a deeper understanding when measuring the impact.

Semi-Structured interview

Semi-Structured interviews as a research method allowed us to have an informal yet structured conversation with students about their feelings towards the Learning Pit and understand their reasons why (Fylan, 2005). We used a sample of 6 children from KS2 that are active members of our students Action Research Team. We conducted the interviews in an informal way. The children's answers then fed into the subsequent questions. We conducted the interview at the start of our project and then as a mid-point review. We looked at both sets of data and analysed the findings to help us measure the impact of our project.

We then triangulated the data to review the 'learning pit' strategy in the first instance to conduct a robust review alongside theory to inform next steps/ areas for development.

6. Baseline Data Collection:

Initial data collection shows several key trends (See Appendix 4 - Raw Data Findings). Firstly, staff believe that once a task is completed learners are satisfied and do not strive for improvement; learners struggle to independently overcome challenges/climb out of the Pit. Staff stated a need for a uniform bank of strategies to assist learners with this. These views were backed up by the initial pupil questionnaire where nearly all children identified the need to **be given** the correct steps-to-success as opposed to using independence and discovery to conquer challenges. From the observations undertaken, nearly all children required further training in utilizing the correct vocabulary choices - this is something that must be modelled by the class teacher. Also, most learners do not see challenge as a cyclical process; they view the Learning Pit as a linear process, once they are out the task is completed and they no longer feel the need to challenge themselves. The semi-

structured interview showed that a few learners did not view the Learning Pit as a positive experience. This is something that can be worked on through strategies such as assemblies, the regular use of the learning Pit and reinforcing our Growth Mindset characters (See Appendix 5 - Growth Mindset Characters). Overall the initial data showed that the schools Growth Mindset characters are a positive strategy to assist learners overcoming challenges alongside the Learning Pit. At this stage, strategies are not streamlined and consistent across the school, this is something that can be worked on through staff training and staff undertaking peer observations.

7. The Project (appendix 6)

Initial staff training was undertaken with the theory behind Growth Mindset was linked to the practical use of the Learning Pit. Here key members of staff were identified to support staff with the implementation of the Learning Pit in their classrooms. Good practice was shared from the identified members of staff in the form of training videos and images during staff meeting sessions. From there, teachers were asked to teach an initial implementation lesson to explain to students how to use the Learning Pit. All staff linked the school's existing Growth Mindset characters to the Learning Pit when introducing the Learning Pit. The use of the Learning Pit throughout the school was monitored through listening to learners. Staff were asked to continually utilise Growth Mindset vocabulary throughout all lessons in order to model the expectations to students. This included asking a range of open ended questions to facilitate the use of the Learning Pit. The Learning Pit is now used throughout all challenging and investigating lessons. It is utilised during the starter, pause plenaries and reflection time. During a staff meeting session all staff were involved in creating a bank of strategies to help learners overcome being challenged and 'stuck in the Pit.'

8. Key Findings:

We organised our findings under the headings of the Instructional Core in order to give a well-rounded view of how the project impacted on the students, teachers around the school and content of sessions.

The Students

Overall, students are able to identify how the Learning Pit lets them overcome challenges. Nearly all students are able to utilise different strategies when they are 'Stuck in The Pit'. Most learners observe now have a shift in mindset; students now embrace challenges and see them as a means to learn something new. As a result of the project, nearly all learners uphold a growth mindset and feel challenged when they are learning. Most children are confident in setting their own steps-to-success in order to complete challenges as opposed to their initial view of simply being given the steps-to-success and being told what to do. In the future, we need to continue to develop reflective practice with the students to ensure that they fully understand the benefits/importance of challenge and discovery.

The Teachers

In terms of teacher's knowledge and skills development, from the observations undertaken, staff are now asking appropriate open-ended questions; this is key to

the success of the Learning Pit strategy. By staff modelling this language, learners are also asking their peers similar types of questions when supporting one and another. As well as questioning, most teachers are modelled effective vocabulary choices, this ensure that learning fully understand the terminology that is used, subsequently using these vocabulary choices themselves. Nearly all teachers found the staff training, images and video clips beneficial in understanding how to introduce and utilise the Learning Pit in the classroom in order to develop resilient and capable learners. As a result of this, most teachers have developed confidence with using the Learning Pit, which in turn, has advocated a positive learning culture across the school where mistakes are embraced and used as learning points. Post-training, staff are involved in developing a consistent bank of strategies to support learners when facing a challenge (See Appendix 7 - Photograph).

The Content

Post project, most classes have a Learning Pit display which is utilised regularly. These displays were developed using pupil voice which provides the learners with greater ownership and motivation of the strategies. In the Foundation Phase students move their faces on the Learning Pit in order to fully understand the term challenge and the feelings/behavioural traits that are associated with it. for instance our younger students understand that it is ok to be stuck and it allows them to embrace the mistakes they have made. In the classes observes, students are challenging themselves towards the higher levels of differentiation present within the lessons as they understand this will help them to learn something new. Students are also utilising the bank of strategies that were developed to assist them with overcoming challenges. The key findings obtained were:

- The success criteria is imperative to students overcoming challenges in their learning.
- Appropriate discussion and feedback time is essential to the success of the strategy, as a result of this:
- Extra Pit Stops and pause plenaries have been planned into all lessons to allow learners the appropriate amount of reflection time.

Impact

In terms of the instructional core, the project has had an impact on staff, students and the content. As a result of staff developing their confidence with the facilitation of the Learning Pit, Students are showing greater independence and becoming more reflective during lessons. Students are able to confidently identify where they are in their learning journey in terms of the Learning Pit, and correctly identify strategies to overcome challenges and climb out of the Pit. As a result of this, students are embracing challenge and discovery with perseverance, resilience and determination. Students are utilising the bank of strategies developed by staff to encourages which encourages greater independence. Overall, there has been a dramatic increase in the students attitudes to learning and seen a positive impact on the ethos and culture we seek to foster within their whole school learning journey.

8. Recommendations:

In order to further develop practice there needs to be further training for learners to

continue to develop their understanding of the identified strategies and how to use them. Staff need to continue to ensure that students remain reflective throughout the whole Learning Pit process not just the start and the end. To ensure this practice is built on, the team will continue to coach and mentor staff to enable new and less confident members to be trained to a similar level.

Sharing Outcomes of the report

A pilot project was shared at Easter at the University of South Wales (USW)(See Appendix 8 - Powerpoint Presentation) . The project was also shared with both schools across The Federation, so that all staff can be fully informed. Throughout the project staff received regular updates and information. Further to this, the outcomes will be shared with other local schools in the consortia under the EAS Lead Network Schools 'Good Schools' grant.

Reflections and Limitations

The strengths of the project identified were collaborative working amongst peers allowed a greater ability to collect a wider range of data from a variety of different stakeholders. This allowed for a variety of viewpoints and a holistic view of the project. Distributive leadership and shared responsibilities was a strength of the project. The shortcomings of the projects identified at this time include; data can be interpreted in different ways and due to the individuals viewpoints collecting the data, who therefore may interpret it in slightly different ways.

Moving forward, the main question asked at this time is:

*Is it possible to measure the **direct impact** of the learning pit with other strategies being utilised whole school?*

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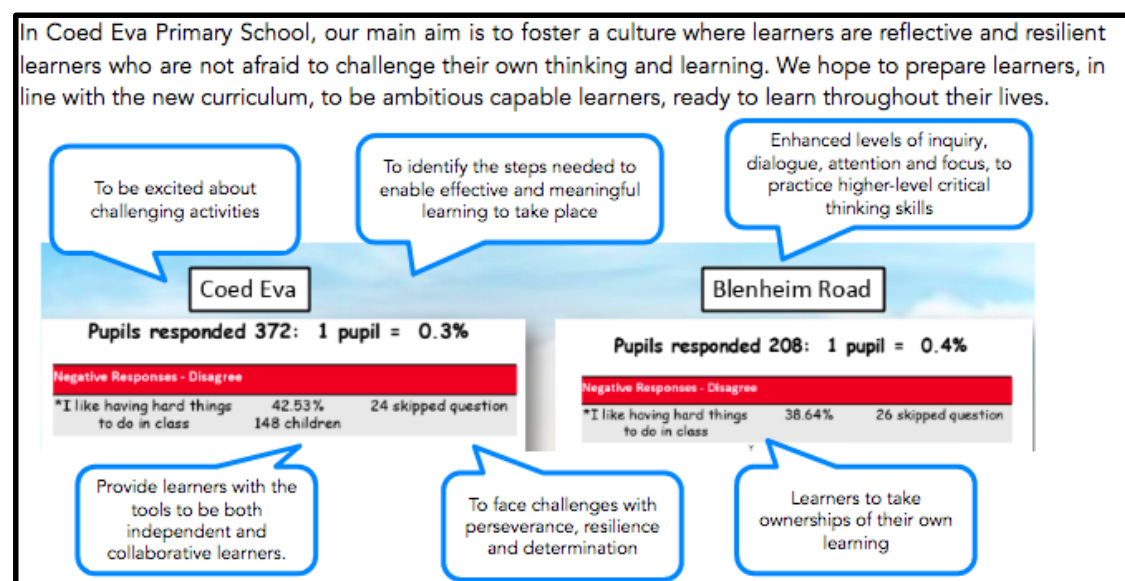
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11. Appendices:

Appendix 1 - Presentation Slide



Appendix 2 - Student Questionnaire

Student Learning Questionnaire

1. Do you use the learning pit in your classroom?

Always	Most of the time	Sometimes	Never
			

2. Will you do your work until you have finished no matter what?

Always	Most of the time	Sometimes	Never
			

3. Do you get frustrated with your work?

Always	Most of the time	Sometimes	Never
			

4. When your teacher gives you work, do you like to create your own steps to complete it?

Always	Most of the time	Sometimes	Never
			

**Questions were reviewed and then put into Survey-Monkey for the students to complete online.*

Appendix 3 - Staff Written Questionnaire

Questions for practitioners who have utilised and incorporated the learning pit into practice before

Background information:

B1: Experience of using the learning pit:

- A – Less than 1 month
- B – 1 – 3 months
- C – 3 – 6 months
- D – 6 months +

B2: Age group taught:

B3: How have you used the learning pit?

- A – Every lesson
- B – Specific lessons, if so, which: _____
- C – Linked to targets
- D – Learners use it when they feel appropriate
- E – Other. If so, when _____

About the learning pit:

Q1: What has been the biggest challenge in incorporating the learning pit?

Q2: How have the learners responded to the learning pit?

Q3: How do learners interact with the learning pit? (Please select which are appropriate)

- A – Learners each have a character which they move
- B – Learners refer to the learning pit
- C – The teacher moves the characters
- D – Learners refer to their smaller version (table top) learning pit.

Q4: If learners are in 'the pit', what strategies do they use to help get out of the pit?

Q5: What has been the biggest benefit of the learning pit?

Q6: If you were going to share your learning pit practice with practitioners who were unfamiliar with the pit, what advice/guidance would you give them?

Questions for practitioners who have not used the learning pit in practice

Q1: Are learners reflective upon their learning?

Q2: What do learners tend to do if they are 'stuck'?

Q3: If learners are stuck? What strategies have you implemented?

Q4: Are learners supportive of each other's learning/help each other:

A: 90% + are supportive

B: 75% + are supportive

C: 50% + are supportive

D: Less than 50% are supportive

Q5: Do most of your learners strive for improvement or are they satisfied once they have completed a task?

A: Tend to complete bare minimum

B: Satisfied once completed a task

C: Will complete the task to the best of their ability

D: Will complete the task to a high standard and will look to improve upon their work

Q6: How do you learners respond to feedback?

Questions for practitioners who are going to implement the learning pit:

Q1: What information do you need before you begin to start utilising the learning pit?

Q2: Would you like to use the learning pit for:

A – A specific area of learning/subject

B – Sporadically

C – In every lesson

Q3: Would you like a class learning pit or a tabletop learning pit for learners to access?

A – Class learning pit

B – Class learning pit and a table top version

C – Tabletop version

Q4: What challenges do you foresee in using the learning pit?

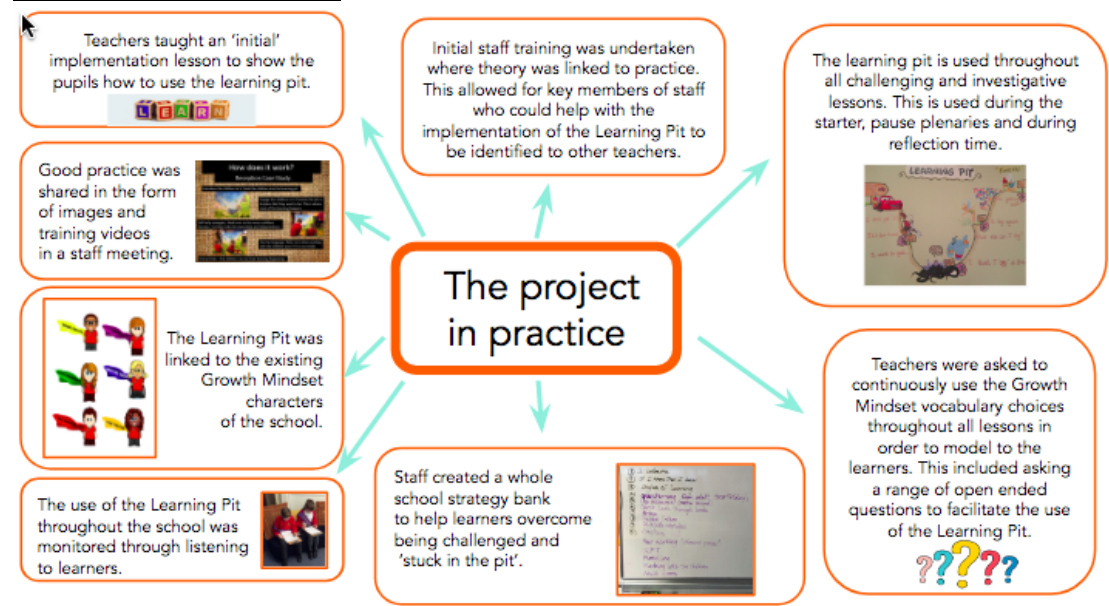
Appendix 4 - Raw Data Findings

- Staff Questionnaire SH
- Most practitioners stated that once a task is completed, learners are satisfied. They do no strive for improvement.
 - Many practitioners asked for key terms/words/captions for each stage of the learning pit. To ensure consistency across classrooms. 'Child friendly statements'.
 - Most practitioners stated learners struggled to independently overcome challenges/ climb out of the learning pit. Staff stated they wanted strategies to help learners out of the pit.
 - A majority of staff stated they would like to observing others using the Learning Pit.
 - A majority of staff said they would like practical examples of how to assist learners climbing out of the pit.
 - A majority of staff asked us to be specific about the expectations in the year groups which will be using the learning pit and how to evidence it.
- Pupil Questionnaires AC
- Most children are being challenged within their lessons.
 - Limited numbers of children are getting frustrated with work.
 - Most children enjoy to making their own steps to success.
 - Nearly all children feel comfortable to ask their teacher if they get stuck.
 - Most children know where to get help for their work.
 - Most children find work in class difficult (challenging learning is good!)
 - Nearly all children feel challenged in the classroom.
 - Limited numbers of children are not getting access to a learning pit in their classroom.
 - Only sometimes children will complete their work if they get stuck, as they do not know what to do.
 - Nearly all children like to be given the correct steps to success (are we encouraging independent learners enough?)
- Observational Data MB
- Most children understood the Learning Pit concept but were unable to suggest a variety of strategies they could use to be independent learners.
 - Most children in both Reception and Year 6 could identify a strategy that they could use. However this was limited.
 - Most children felt the Learning Pit was one way and at the end of the lesson they would be out of the Pit by just completing the task.
 - Nearly all learners need further training on utilising the correct vocabulary choices when using the learning pit. This can be modelled by the class teacher.
- Semi-structured interviews KR
- Most children knew what the learning pit was but were not confident in explaining what this was.
 - The Year 5 and 6 children were most confident in explaining strategies that were available when in the pit.
 - All children 'ranked' the strategies differently.
 - 34% of children did not enjoy being in the put (and did not feel that it was a positive experience)
 - All children linked our Growth Mindset Characters with regards to helping 'get out of the pit'
 - Lower KS2 were not aware of what the pit was.
 - Strategies were not streamlined and consistent across the school.

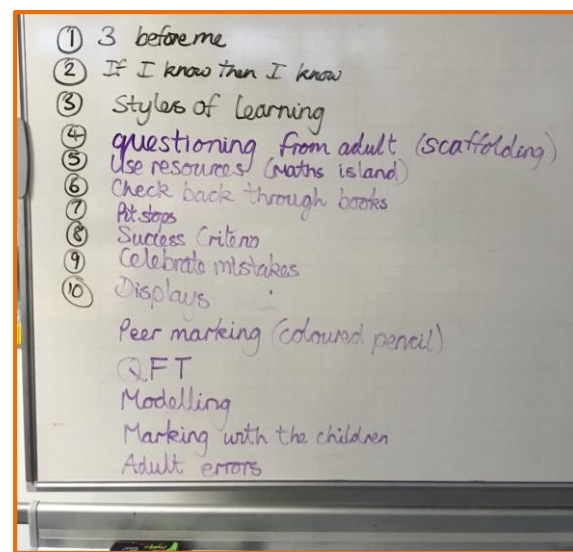
Appendix 5 - Growth Mindset Characters



Appendix 6 - The Project



Appendix 7 - Photograph



Appendix 8 - PowerPoint Presentation

(See attached document)