

	Target	What I have done in this assignment
Target 1	Be more consistent	I have proofread several times to ensure my work is consistent.
Target 2	Avoid being narrative	I have used research when describing the process of creating an SDP.
Target 3	Develop more sophisticated arguments	I have tried to achieve this in the reflection and evaluation section

How a school develops one aspect of its school development plan; a report that critically reflects on the actions, impact and evidence base.

A School Development Plan “sets out the actions a school will take to improve learner outcomes” (Welsh Government, 2014). This essay will critically reflect on one of the Priority Areas identified in the School Development Plan. The development plan under scrutiny is from the student’s PTE1 placement school, a one form entry, rural, primary school in West Wales. The school has 220 pupils across the 8 classes (Nursery – Year 6).

The School Development Plan for the 2019 - 2020 school year has three Priority Areas as set out in Figure 1.

Priority Area 1: Maths - To improve pupils’ mental mathematical strategies and the standard of conceptual understanding. Priority Area 2: ALN – To improve and enhance working practices in line with the ALN Transformation Programme and new ALN Code of Practice. Priority Area 3: To embed the Four Core Purposes of the New Curriculum in the learning and the experiences of all pupils.

Figure 1 - The Three Priority Areas of the SDP (■■■■■ et al., 2019)

The Priority Area chosen to reflect on is Priority Area 1: Maths. This essay will examine how the target was identified, the “actions” taken to implement the target, the impact that this has had on learners and how that impact is measured.

In 2014 Welsh Ministers brought in the Education (School Development Plans) (Wales) Regulations 2014. This was in response to Estyn's Annual Report (2013) where it was highlighted that there was evidence that the effective use of development plans benefitted the schools that they had inspected. The aim of these regulations is to ensure that all schools in Wales use a "robust, evidenced based approach to planning" (Welsh Government, 2014).

The School Development Plans (SDPs) are also useful to Estyn when inspecting a school. They show how a school communicates with its governors and other stakeholders – "Senior leaders keep governors well informed about the school's progress towards achieving the targets in its improvement plan" (Estyn, 2017). The provision of the SDP also allows Estyn to explore and interpret how a school works towards making improvements.



Figure 2 - School Development Plan Cycle (Welsh Government, 2014)

As seen in Figure 2, School Development Planning is a cyclical process and requires the school and its stakeholders to engage with all the stages within the cycle. In the 2017 Estyn Report of the subject school, a recommendation was made to "identify clearly actions to secure improvements within the school improvement plan". This recommendation then formed part of the SDP for the following year (2018 – 2019). It was identified when drafting the SDP for 2019 – 2020 that the school had made Very Good Progress in achieving this target, demonstrating the cyclical process.

Hanover Research (2014) recommends a "less is best" policy when identifying targets, two or three targets are ideal. Prioritising targets is vital as inevitably there will be more than three aspects that could be addressed. Schools must remain focused on the evolving nature of the

development plan and the targets. Once successfully implemented and sustained the process can start again. Thus, achieved targets can be replaced with new targets that have become the highest priorities (Department of Education, 2010).

“Raising the standards of education in relation to numeracy” as identified by the Welsh Government (2014) is a national priority. An SDP provides a framework in which the school can imbed national aims and policies. The Government's aim is broad and to be implemented effectively needs to be made school specific. In this case the school is looking to address mental maths and conceptual understanding. Graven (2013) identified “number sense” as being key in Early Years education as the more developed a child's number sense the greater their understanding as mathematics develops in complexity. This is supported by Taylor (2013) who believes that it is the development of a pupil's understanding of mathematics that results in their learning.

This divide in a child's ability in maths appears to be a direct result of the level of the child's mental computation - a child's ability to calculate in their head (Heirdsfield, 2011). Heirdsfield (2011) encouraged teachers to give pupils the resources to develop their understanding of number itself, thus allowing pupils to use any method that made sense to them to process the sum. Heirdsfield's (2011) research demonstrated that it is not just about knowing how to complete a sum, it is understanding the strategy and pattern involved in finding the answer.

This deeper understanding of the maths, in turn supports a positive mindset (Dweck, 2012). The understanding can facilitate the pupil's exploration of ideas and application of their prior knowledge to facilitate learning through discovery. Williamson (2007) found that this change in mindset was indeed the case. Williamson (2007) set about developing mental reasoning skills in her Year 3 class. Her research found that the process is as important as the product; allowing children time to explore the process is key to their understanding. This understanding and the resulting ability to make links to things that ‘in theory’ they do not know how to do, allows the pupil to put the parts together and create the answer. This confidence in their ability directly benefited the pupils' mindset and was in stark contrast to the group in which she had not spent the time developing understanding. Embracing making mistakes can be key to encouraging a growth mindset in a Maths lesson. It takes away the fear of failure and encourages discussion about why it is wrong which in turn develops deeper understanding (Pearson, n.d.).

As shown in this research it is very much the role of the teacher and school to facilitate the ability to develop this deeper understanding of maths. If implemented successfully the school

will find there are numerous benefits across the school curriculum but also in behaviour, attitude and mindset. In depth understanding encourages a Growth Mindset (Dweck, 2012) and supports Donaldson's (2015) four core purposes, specifically being an ambitious, capable learners, ready to learn throughout their lives. This "purpose" supports "possibility thinking" (Craft, 2000), building pupil confidence and resilience through encouraging them to explore, interpret and draw their own conclusions (Craft, Cremin and Burnard, 2008).

To develop and implement an action point such as "Maths - To improve pupil's mental mathematical strategies and the standard of conceptual understanding." There are a series of steps the subject school and its stakeholders followed, as set out in Figure 2.

Initially the school conducted a thorough self-evaluation (Cambridge Assessment International Education, 2018). This self-evaluation looks at all areas of the school and, therefore, requires the input from a range of stakeholders, as "critical friends" (Brighouse and Woods, 1999) to aid in the identification of targets and thus maximising the chance of success. Key stakeholders that were represented in the process are teachers, pupils, parents and governors. When carrying out the self-evaluation the senior leadership team delegated responsibility to involve the stakeholders and to ensure that the process of self-evaluation is a learning activity benefitting a wide range of participants (Cambridge Assessment International Education, 2018). The self-evaluation process allows the opportunity for participants to develop skills and gain experience and confidence (Cambridge Assessment International Education, 2018). This delegation of parts of the process encourages, "commitment, engagement and involvement" (Department of Education, 2010) by stakeholders from the outset. This inevitably creates additional work for teachers, so the senior leadership team were aware that they must allow the time and resources to ensure that those teachers that are involved in the process do not become over-worked and disheartened by the additional work load (Logan and Sachs, 2005). Aware of this problem, the Department of Education (England) created a Teacher Workload Advisory Group (2018) whose aim was to highlight and remove unnecessary workload created by the requirement for data collection in schools. To manage the workload, the subject school allocated additional PPA time in some instances and the weekly staff meeting was often used to discuss, research or study data or elements of the SDP.

All self-evaluation relies on the school's collection of data (McNaughton, Kuin Lai and Hsaio 2012) and its analysis (Department of Education, 2010). Both qualitative and quantitative data are required and were used by the subject school whilst going through this process. Quantitative data collected from National Test Results and internal school testing is

compared against pupils non-verbal reasoning testing results. This comparison provides evidence on how the pupils are performing and gives an overview of how well the school is providing for those pupils. By using the data to identify problem or target areas, test results are not solely being used as assessment of learning by pupils but are being developed into assessment for learning tools (Black and Wiliam, 1998).

Contextual factors or school data is also considered as this gives information such as the percentage of pupils who are eligible for free school meals (FSM), the number of looked after children (LAC) or the number of children who have additional learning needs (ALN). This data can provide context when looking at where the school performs nationally and may help in determining the importance of identified target areas. Qualitative data sources looked at in the creation of the SDP were inspection reports, pupil reports, staff and teacher observations from learning walks and book scrutiny and opinions and feedback from consultations with stakeholders such as parents, staff and pupil questionnaires (Department of Education, 2010).

As discussed by Schildkamp (2018) "data use for school improvement is a complex process". This therefore requires teachers and Governors as stakeholders of the school to be equipped with the skills to process, analyse and make decisions on the data they are presented with. As such Local Authorities and Governing Bodies endeavour to appoint Governors with a diverse skill set. As well as having prior experience from a profession, Governors are provided with training with a focus on analysing performance data (Welsh Government, 2018).

To aid the analysis of the data gathered, the Department of Education (2010) suggests three questions that should be asked during analysis. Firstly, how is the school's performance compared to that of previous years? Are there trends in the school's results? Secondly, how does the school perform compared to schools with similar circumstances? Is the school where it should be? Finally, how is the school performing compared to all schools and the overall government targets for improvement? These questions help the Governors and senior leadership team to identify the priority areas for their SDP. Furthering the schools understanding of these findings with academic reading creates a strong base on which the school can make changes (Brown, Schildkamp and Hubers, 2017). This puts the pupils' learning at the heart of the school's efforts rather than the outcome of that learning, the grade (Datnow, Park and Wohlstetter, 2007).

To ensure improvement within a school is the result of the SDP, efficient strategic planning is required. Priority areas must be identified, the Department of Education (2010) recommends

a SMART approach. This means that targets must be specific, measurable, achievable (yet challenging), realistic and time bound. Once these targets have been identified, implementation strategies must be compiled. The subject school breaks the Priority Area into specific targets, in this case there are four targets as set out in Figure 3.

- 1) To improve and develop a range of mental mathematical strategies for all pupils to use and apply
- 2) To improve the planning, assessment and evidencing of mathematics and numeracy, in line with the New Curriculum.
- 3) To improve and increase the breadth of real-life mathematical experiences and practices, in line with the New Curriculum. To improve the profile and achievement in maths across the schools.
- 4) To improve and increase parental awareness and understanding in supporting the teaching of Mathematics and Numeracy.

Figure 3 – Four targets of Priority Area 1: Maths (██████ et al., 2019)

The SDP sets out how these targets are to be actioned, the success criteria for achieving the target and the desired impact of that target. This desired impact needs to be measurable as without the ability to measure the impact of the action there is no way to tell whether it has been successful in improving the outcomes of the learners (EEF, n.d.). The senior leadership team at the subject school firmly believed that there was no point in doing something if they could not measure the impact. The main way of testing the effectiveness, to give data, was for each pupil to complete a mental maths test each week and the school were looking to see an improvement in results over the year. The school were also hoping to improve the pupils results in the National Numeracy Tests that are sat twice a year, once before Christmas and then again in the Summer term.

To facilitate the implementation of the Maths Priority Area, a member of the teaching staff became the designated Maths Coordinator and a budget was allocated for training and resources. To keep training costs down, the Maths Coordinator went to specific mental maths training days and they were then responsible for training the rest of the teaching staff, a cascade approach to professional development (Ngeze, Khwaja and Iyer, 2018). To ensure teaching time was not affected, Inset Days and Staff Meetings were allocated to the Maths Coordinator.

Each classroom made a maths display board. Set out on the board were a variety of techniques that could be used by the pupils. In the centre of the board was a Demonstration 1 – 100 Bead Bar. The bead bar, purchased with the SDP budget, was used regularly in warm up activities for maths and number labels on paperclip hooks could be placed on the bar by the pupils. This process helped pupils see how numbers related to each other and was especially useful when working with decimals. Another resource that was purchased with the SDP maths budget were Counting Sticks for all classes. These were used slightly differently to the bead bar and were most used to practise times tables. Numbers could be stuck onto the counting stick with blue tac, again creating an interactive and concrete resource for the class (Bütüner, 2016). I believe that both are very useful tools and aided by the training, were used in interesting, dynamic and original ways.

Knowledge of times tables were an identified area which could be improved. Singing times tables was introduced as part of the early morning routine for many classes, even Year 1 where the concept of multiplying numbers was not understood by any child within the class. This rote learning approach was interesting to the observer as it doesn't facilitate deeper mathematical understanding (Mubeen, 2018) which is in direct contrast to the research findings.

Each class offered a maths parental engagement (EEF, n.d.) workshop to support parents in being involved in their children's learning. Unfortunately, the parental engagement evenings were, on average, attended by three parents per class. These parents reported that the information given had been incredibly helpful and that they would try to use it at home.

To test whether the techniques being implemented were being applied by pupils, every Friday pupils completed a mental maths test. This was then marked by pupils and questions that pupils struggled with were worked through by the whole class so that all pupils could discuss how they would work it out. This removed the fear of failure (Dweck, 2012) and allowed pupils to benefit from the "More Knowledgeable Other" (Vygotsky, 1978) when peers explained the techniques they had used.

Interestingly the school didn't make any changes to the maths syllabus, the same scheme of work continued to be used as the basis for most lessons. The scheme did not require the pupil to apply what they know, "to think" (Gowers, 2016) to complete a task. Instead, it was a traditional 'this is how you do this kind of sum, off you go and complete 10 – 20 of them' approach. Similarly, to the rote learning of the times tables, embedding mathematical strategy does not appear to be at the core of this target. These approaches go against what Heirdsfield,

(2011) and Williamson (2007) found to be successful in closing the attainment gap and improving outcomes in mathematics.

Creating an SDP focuses schools on moving forward and highlights areas of weakness (Estyn, 2013). During the creation of the SDP the purpose of the process must be kept at the forefront of stakeholder's minds – to raise standards and improve outcomes for all learners (Welsh Government, 2014).

Through encouraging the focus on improving learner outcomes the SDP and its associated processes has the capability to encourage the development of new and engaging practice by staff. This was indeed the case in the subject school as teachers appeared to buy into the target, as they used their new resources and techniques. However, there did appear to be a lack of depth to this target's implementation as it did not seem to be truly imbedded in the school ethos.

The SDP will be seen to be successful if all pupils are achieving higher grades in their mental maths tests at the end of the year than they were at the beginning and if their second national test result is better than their first. These tests provide the data evidence required to make the target measurable. However, the purpose of the target has perhaps been lost as it could be argued that the short-term goal for the school is more important than long term gain for pupils.

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