

Prepare a portfolio (as though you were sharing with a mentor or student colleagues) which illustrates a critical reflection of progress made on the planning and implementation of three pedagogical principles.

04 January 2020 17:25

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Pathway: PGCE Primary

Targets from previous assignment:

	Target	What I have done in this assignment...
Target 1	Develop knowledge of the pedagogical principles.	As this assignment is predominantly based on these principles, I have increased my depth of knowledge into the 3 principles that I am examining.
Target 2	Include page numbers in references for greater accuracy.	I have included page numbers in all of my references to ensure that they are as accurate as possible.

Illustrative Example 1

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Context...

I used the DCF as a cross curricular technique when teaching a literacy lesson to year 2. The aim of my lesson was for pupils to practice retelling a story. As our theme for the half term was light, I chose a folk tale from Norway and used a video to tell pupils the story. Pupils were asked to verbally recall the story on the carpet before completing one of 3 differentiated storyboards, retelling the story. When this task was completed, I asked pupils to retell the story orally again whilst they were filmed on an iPad by a peer.

Rationale...

Whilst the retelling of the story would have fulfilled the oracy element of the national curriculum without the use of the iPad, I decided to incorporate this into my lesson to build on the pupils' use of technology. I knew from previous lessons that pupils were able to take photographs on the iPads, but I wanted to check their ability to video and hold the iPad steady whilst they were taking the video, thus also promoting motor skills and holding a position. This use of video meant that pupils received instant feedback on their retelling of the story as they were able to watch themselves back immediately. I also decided to ask pupils to upload their videos to SeeSaw for parents to view and 'tag' their peer in the video. I knew that pupils were able to use SeeSaw to access resources, but I wanted to check pupil ability to upload their own content. Including this in the task will prepare them for when they begin using social media, how to safely upload content and only share it with the correct or relevant people.

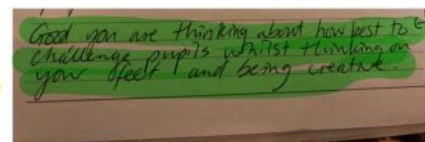


iPads

Journal

Evaluation...

This use of the DCF was largely successful within this lesson as all pupils were able to record, watch, and upload their videos. Pupils really enjoyed using the iPads and working with a partner which meant that they actively engaged in their literacy lesson. They were also keen to share their work with peers, showing a sense of pride in their videos. However, some pupils did use their storyboards when recording their videos. Whilst this still fulfilled the DCF as the video was still recorded and uploaded, it did not test retention of the information from the story. In future planning, I should account for this and plan to collect in storyboards before asking pupils to film their retelling.

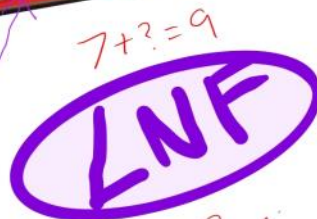


Illustrative Example 2

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Context...

When teaching year 2, I taught an RE lesson using the theme of light. I looked at the Jewish festival of Hanukkah and the pupils learned the story behind Hanukkah and the significance of the Menorah. I emphasised the number of candles on the Menorah and made sure to check that pupils were aware of the significance of this number – what did the 8 candles represent? I then tasked the pupils to make their own Menorahs from the materials provided.



Rationale....

Once the pupils had completed their Menorahs, I noticed that some pupils had not made put enough candles on their models. Instead of just telling the pupils to add more candles, I decided to use the opportunity to introduce some cross-curricular maths. By year 2, the pupils should be able to easily recall their number bonds to 10 and work out simple number problems. From my observations in the class, I had noticed that a number of the lower level pupils had been struggling with simple addition in their numeracy lessons. To assist with this, when a pupil brought their completed Menorahs to me, I asked them to count the number of candles they had used. If there was too many or too few, I asked the pupil how many candles there should be. They then had to work out how many candles they had to add or remove to make the correct number of candles.

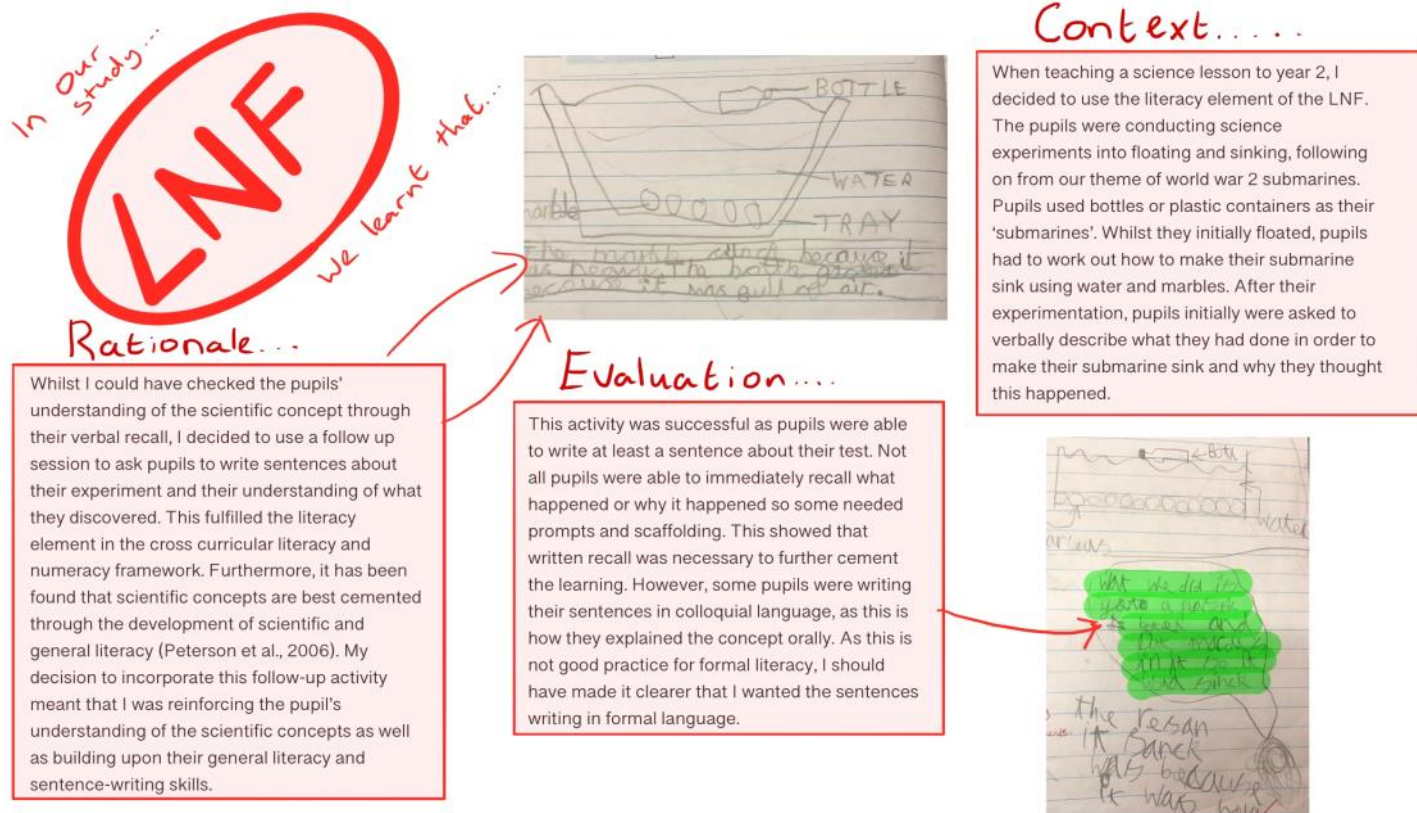
Evaluation...

This addition proved to be successful in my lesson as all pupils were able to work out the number of candles they needed to add or take away. One pupil had too few candles on his Menorah as he had struggled to count to 9. Together we counted along his candles using his fingers to help him. We then worked out how many more fingers he would need to use to get to the desired 9. After this, he was able to peer support another pupil who was also struggling. The fact he was able to replicate his methods to help another pupil showed that my intervention had helped the pupil with his maths, and he can then use these techniques in his numeracy lessons.



Illustrative Example 3

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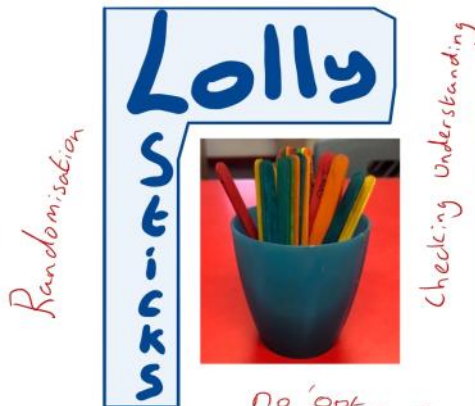
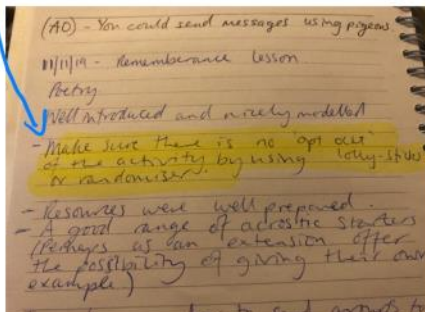


Illustrative Example 4

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Rationale...

In my observations I had noticed that in particular lessons, the teacher called upon pupils to answer questions and share their thoughts. The teacher only selected pupils who volunteered answers by putting up their hands. When I began leading the lessons, I noticed there was always the same group of 5 pupils who volunteered answers and the rest of the class chose to 'opt out' of the lesson and not get themselves involved. My teacher put a note in my journal to maybe use lolly sticks to select random pupils. The next time I was teaching I tried this technique and found it rectified my issue. From then on, whenever I taught the class, I decided to always use the class lolly sticks when questioning the pupils.



Evaluation...

Using the lolly sticks for questioning meant that I could check the level of understanding of all pupils, not just the pupils who volunteered answers. This meant that I had a better gauge of which pupils were understanding the learning and which pupils needed extra support. It meant that all pupils were switched on at all times and ready to be selected, removing the option to 'opt out' of the learning. However, I did find that in certain lessons, such as literacy, not all pupils are present (some leave the room for external phonics programs). This proved to be an issue with using the lolly sticks as I often selected pupils who were not present thus wasting time. Furthermore, randomly selecting pupils for questioning could lead to embarrassment as pupil weaknesses could be highlighted in front of their peers.

Context...

Within my year 2 class, I wanted to ensure that my questioning techniques always reached all pupils. I decided to use the class lolly sticks in my questioning to ensure that pupils were always ready to answer a question and to make sure that no-one had the opportunity to 'opt out' of the learning by not volunteering to join in. I used this technique in the majority of my lessons including maths, literacy, science and welsh. As well as using lolly sticks to select pupils to answer questions, I used them to select pupils to perform their welsh conversations to the rest of the class. This meant that all pupils needed to actively practice with their partners so they were ready to perform if they were chosen by the lolly sticks.

as it excluded. Pupils all able to recall
on target. I was supposed to use lollysticks but
half the children were not in the lesson. This
may not have worked so I chose random pupils
instead.

Illustrative Example 5

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Context

When teaching year 2, I was leading a lesson about Remembrance Day in which we were attempting to write an acrostic poem. The pupils had not been introduced to the concept of an acrostic poem before, so I needed to introduce this concept as a group. I decided to use learning partners to allow the pupils to discuss and collate their ideas for lines in the poem and then used asked pupils to share with the group and as a class we developed an example poem to act as a WAGOLL.



Rationale

I felt that it was more beneficial for pupils to discuss their ideas with one another because it enhances quality of talk within the classroom. Research has shown that language rich classrooms provide a space that is more likely to enhance learning (Smith, 1998). Furthermore, asking the pupils to share ideas provided lower ability pupils with a scaffolding from their peers to enable them to join in and share their thoughts.

Evaluation

I feel this was a successful technique to use within the lesson as all pupils were able to feedback some ideas for lines of the poem. Pupils who initially struggled to grasp the idea of the poem layout were later able to give relevant suggestions in the correct format after discussion with a peer. It was, however, difficult to pinpoint when pupils should start and end talk as I wanted to allow enough time for all pupils to have an enriching discussion, without allowing my MAT learners to become bored with the task.

Learning Partners

Collaboration...

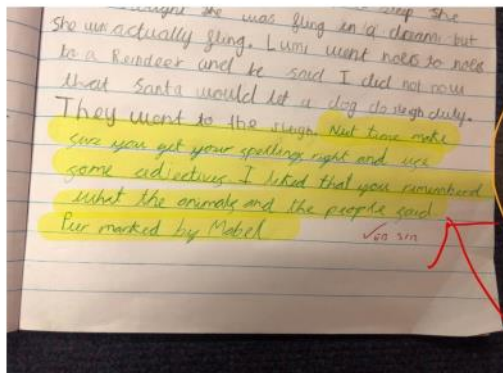
Scaffolding...

Mentor Comments

Who would like to sleep in the bedroom?
Good use of partner work to discuss
how it would feel to have one of the
beds.

Illustrative Example 6

04 January 2020 17:31



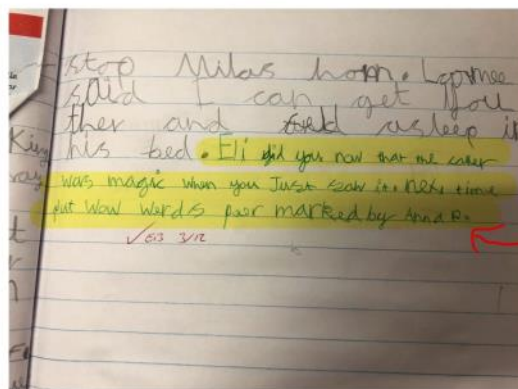
Peer Evaluation

Context....

I taught a literacy lesson with year 2 where pupils were asked to write sentences about a Christmas story that they had heard. In this lesson I chose to use peer assessment as a form of assessment for learning (AfL). I chose to use peer assessment as it is essential that pupils are able to spot errors in work themselves to build pupil autonomy, increasing independence and skills allowing them to redraft their own work.

Rationale....

William (1998) wrote that if pupils are to become capable of marking and evaluating their own work, they should first try and evaluate the work of others. Peer marking allows them to look at a piece of work with which they are familiar and evaluate it, without being biased over the fact that the work is their own. Pupils can use their pre-existing knowledge of the task and the success criteria to evaluate the work of their peers. I used this technique in the lesson to introduce pupils to the use of evaluation, asking them to give one thing they liked about their friends work, and one thing that they could do better. I then asked pupils I swap books back so they could read their peer feedback and discuss how they could implement the changes.



Evaluation....

This technique was successful in this lesson as pupils were all able to identify positive and negative points about their peer's work. Some pupils needed help with possible evaluation points but all were able to come up with their own using minimal prompts. It should however be noted that some pupils had more constructive feedback than others so the evaluation offered was not consistent for all learners.

Illustrative Example 7

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Choosing the right coins

Context...

In numeracy, my year 2 class were learning about the topic of money. Whilst all pupils had encountered money before there was a very wide range of abilities within the class – some pupils were able to recognise notes and give change whilst other pupils were struggling to recognise basic coins. I was asked to teach the numeracy lessons for a week introducing the pupils to money and practising paying for items with simple coins. I developed a carousel of activities where 10 pupils could focus on an activity at any given time.

Rationale...

Two of the activities that I planned focused on the recognition of the coins; one on the iPad playing a game and the other completing a supported worksheet. I decided to plan a third activity that focused on building upon pupils' previous knowledge and experiences. From conversations with the pupils I knew that they all shared the previous experience of paying for items in shops when they were out with their parents. I decided to use this knowledge to place the pupils in a familiar situation but remove the adult assistance from the scenario. I recreated a 'shop' in the classroom but asked pupils to identify and pay with the correct coins without adult help. I ensured that there was a range of items within the 'shop' so the task was differentiated for the top of the class, who could pay with a range coins e.g. £3.58, but also for pupils who were struggling so could pay with basic, single coins e.g. 50p. Pupils independently played in the 'shop' with some pupils acting as shoppers: choosing and paying for items, whilst others acted as shop-keepers: checking the total coins were correct.

Evaluation...

Pupils were enthusiastic and engaged well with the task. All pupils were seen choosing items and counting out money to pay for their items. Verbal feedback from pupils also suggested that they had enjoyed the task and said that it had helped them in identifying the coins they used on a day to day basis. Some pupils also said that they had taken the learning home by asking parents if they could identify correct coins when out shopping. However, the only limitation with this task was that the lack of adult intervention meant that pupils were not constantly monitored to check that the coins they were paying with totalled the correct amount. Whilst often pupils were accurately checking their peers' payments, there is a chance that payments were incorrect but not challenged.

Class Shop



checked by pupils

Illustrative Example 8

04 January 2020 17:31

Context...

In my first half term at the schools, the overall school topic was World War 2. In my year 2 class, pupils had previously looked at spies and the different jobs in the war. They raised the question themselves in a show and tell session of whether spies operated underwater. This was a question that many of the pupils were interested in and some pupils suggested that spies could have used scuba divers or submarines. I decided to use this interest to guide my literacy lessons the following week. I developed a carousel of activities around life on a World War 2 submarine and the week culminated in pupils writing a letter home to their families as if they were on a submarine in World War 2.



Virtual tour

Evaluation...

Pupils were really engaged in both tasks and their previous learning around spies meant that their role play was informed by historical facts. Evidence of learning was shown in pupil letters at the end of the week when they were able to describe what life was like on the submarine, the things they missed from home and some even included the issues of spies on the submarine. Both of these tasks were undertaken independently, which allowed pupils freedom in how they wanted to explore without feeling like they were being monitored. However, this meant that the role play group were initially unsure of how to begin their role play and which characters should be involved. If I was to deliver this lesson again, I should write some scenarios as a scaffolding to structure the role play and give pupils a starting point which they can go and explore from.

Children were really interested in the subject matter

Mentor Comments

Rationale...

One of my three tasks introduced pupils to the concept of writing an address for their letter. The other two introduced pupils to life on a submarine. I found an online resource in which pupils could go on a virtual tour of a submarine as it had been in world war two. They could use the computer to select rooms and walk themselves around. This engaged pupils as they could immerse themselves with the how cramped it would have been and what the conditions may have been like. For my third activity, I decided to be guided by the pupil voice and use the questions that they had previously raised. Pupils had been interested in the idea of underwater spies on submarines, so I used this hook and decided to build on the pupils' previous learning of spies and asked pupils to undertake a role play. We collected boxes in the outside area that pupils could make into a 'submarine' and asked pupils imagined that they were spies aboard the submarine. Some pupils took the role of the submarine crew, going about their daily life on the submarine whilst others acted as spies for enemy countries, hiding around the submarine to collect information.

WW2 Submarines



Spies hiding on the Submarine



the crew

Illustrative Example 9

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Rationale...

From observing previous art lessons, I was aware that the class had done a project based around blending colours together. The teacher was particularly keen on them starting to use technical vocabulary and words such as 'blending', as well as understanding how they could mix two colours so the transition from one colour to the next appears to be seamless. I decided that Rosemaling was perfect to match the theme of Norway as well as building on pupils' previous knowledge of blending colours as a technique. I delivered 2 lessons around this topic. The first introduced pupils to the technique and gave them time to experiment on blank patterns. In this first lesson my aim was just to get pupils familiar with the idea of using their fingers and not to be afraid of mixing their paints together. I then delivered a follow-up lesson where pupils completed one small pattern each using the technique they had practiced. I then assembled these small patterns all together to make one big Rosemaling display.

Evaluation...

Pupils were initially reluctant to put their hands in the paint as it was against everything that they were normally allowed to do in lessons. However, once they settled into the lesson, they were able to build on the blending techniques they had learned in their art lessons to produce new colours. They used their previous knowledge of mixing to create colours such as orange or green; something they could not have done without this background knowledge. The final display was very successful, and pupils were proud of the work they had produced. My class teacher commented on the success of the large display and commended it for the way that I had built on their previous learning to introduce a new concept.

Context...

The overarching theme in the school this half term was light. We decided to take the concept and look at Norway, the land of the midnight sun. From this theme, I was asked to deliver a craft and art session based on Norwegian traditions. After some research, I found the traditional painting technique of Rosemaling. This technique historically involved using fingers when painting to blend colours together and form swirling patterns.



Experimentation

Critical Reflection

04 January 2020 17:32

The Welsh National Curriculum is currently undergoing educational reform. This reform is primarily based on the work of Graham Donaldson and his pioneering report 'Successful Futures' (2015). In this, Donaldson outlines 12 pedagogical principles to categorise the qualities of good teaching and learning. In this assignment, I will focus on three of these principles and examine how I have implemented them during my first professional teaching placement; in a year 2 class of a two-form primary school in an affluent area Cardiff. I will examine the literature surrounding these principles before carrying out a critical analysis of their implementation across my placement.

Good teaching and learning regularly reinforces Cross-curriculum Responsibilities, including literacy, numeracy and digital competence, and provides opportunities to practise them.

In his review, Donaldson (2015) was clear about the importance of cross-curricular learning. He proposed that the Literacy and Numeracy Framework (LNF) and the Digital Competency Framework (DCF) should remain as the core cross-curricular responsibilities in the curriculum reform, as they were three of the most important skills underpinning all learning. He suggested that the most effective way of teaching these core skills was to include them across the curriculum in all areas of learning and experience. An important consideration when planning for a cross-curricular lesson is to make learning contextual. The literacy, numeracy or digital aspect of the lesson must not be used simply for 'box-ticking'. The cross-curricular aspect must be fully integrated and contextualised to ensure the best learning potential (Hickman & Kiss, 2010).

If the cross-curricular responsibilities are fully embedded in the lesson context, a wide range of evidence exists to support a cross-curricular method as an effective technique for teaching key skills. Bloom's Taxonomy shows progression steps for learners to progress from low-level cognitive processes to higher-order thinking with learners passing through all stages before reaching higher-level autonomy (Bloom, 1956). The third level of the taxonomy, 'application', involves a learner applying learned information to a new context (Anderson, 1994; Bloom, 1956). A new area of learning, which is fulfilled by cross-curricular teaching, best provides this new context. If Bloom's Taxonomy is accurate, the use of cross-curricular teaching could promote the learner to higher-order thinking, thus creating a more independent learner (Adams, 2015). However, whilst Bloom's taxonomy has been praised as a practical, often successful, method for teachers to encourage higher-order thinking (Soozandehfar and Adeli, 2016), it has also been criticised heavily. A hierarchical taxonomy often reflects each level being created from cognitive skills in the level below. However, with Bloom's taxonomy, there is no research suggesting that the cognitive skills on each level support the level above (Conklin 2005; Marzano 2001).

A cross-curricular approach to teaching has also been criticised for its practicality in classroom implementation. Critics suggest that learners need clearly defined subject boundaries in order to learn successfully (Barnes, 2015). Furthermore, offering pupils choice (common in thematic, cross-curricular lessons) could allow pupils to choose 'easier' subjects and 'opt-out' of subjects found more difficult (Hayes, 2010). Cross-curricular lessons may also become repetitive; many schools have attempted LNF implementation by planning a range of writing tasks for different purposes (Welsh Government, 2013). Whilst this fulfils the cross-curricular responsibilities of the LNF, it often repeats work from literacy lessons instead of progressing learning or developing skills (Estyn, 2018). Other research has found cross-curricular teaching to be a best reflection of reality; outside the school environment, pupil learning takes place in a range of contexts, so this is best replicated with a cross-curricular process to allow preparation for future independent learning (Kerry, 2010; Alleman & Brophy, 1991). Some studies also conclude that the best method of teaching incorporates both cross-curricular and subject-specific teaching with equal importance (Barnes, 2015).

I was aware of the importance of cross-curricular learning during my professional teaching experience 1 (PTE1). I knew the responsibilities included both LNF and DCF and I incorporated at least one of these areas into each of my lessons. Initially, I found the DCF easy to include because the class had a set of 10 iPads with access to SeeSaw – software allowing both communications with parents and the setting up digital material for use in-lesson. This was useful when using online resources and gave pupils the opportunity to share work with their parents. Research states that, for learning to occur, it is important pupils actively engage with the technology, rather than simply watching the teacher use it (Herrington & Kervin, 2007), so I always allowed the pupils to engage in online work on the iPad instead of watching the interactive whiteboard. I am aware however, that future schools I work in might not have class iPads so it is important to utilise a variety of technology in my lessons. Having experienced occasional issues with SeeSaw, I found that, when using the DCF, preparation for technological failures and additional contingency plans were essential. Furthermore, I learned that technology can be distracting (Lewis, 2013), so it is important to find ways to monitor pupils during activities, such as mini plenaries where pupils share their findings.

At the beginning of PTE1, I struggled to incorporate the LNF into my lessons. Often, my activities led to the creation of a piece of work and to promote literacy I asked pupils to simply write down what they had been doing. As outlined in example 3, an effective way of checking scientific understanding is through the use of literacy (Peterson et al., 2006) so I often used this in science lessons as it gave me an understanding of pupil learning levels. When applying the LNF, I need to consider more ways to include oracy into my lessons instead of pure literacy. Oracy has been shown to be equally vital in pupil development (Alexander, 2012; Simich-Dudgeon, 1998). Possibilities include the use of think, pair, share or similar 'assessment for learning' techniques to be carried out after a task.

Throughout the placement I found it difficult to include maths in my lessons. Pupils should learn in authentic contexts (Stevenson, 2016; Wiggins and McTighe, 2011) and, whilst able to find authentic links to many other aspects of numeracy, I found finding authentic contexts for counting outside of numeracy lessons challenging. Successful integration did occur in my topic lessons when pupils created menorahs (example 2). Vygotsky notes that social aspects are vital in learning (Vygotsky, 1980) so my pupils worked together to count the candles. Despite this successful lesson, I need to learn additional integration methods in order to promote this cross-curricular responsibility.

Good teaching and learning means employing assessment for learning principles.

Assessment is a key element in a primary classroom (Briggs et al., 2008). It enables pupils to grow and allows measurement of this growth. Donaldson is particularly clear not only on the importance of such assessment, but also on the type of classroom assessment being undertaken (Donaldson, 2015). Previously, summative assessment was often seen as the most important form of classroom assessment. Summative assessment, or assessment of learning, is defined as an assessment where the focus is based around the overall outcome of a session or lesson (Moss and Brookheart, 2019). More recently, there has been increasing focus on formative assessment – on-going assessment throughout lessons to check learning as it takes place (Moss and Brookheart, 2019). Whilst both are deemed useful and have their own place in lessons, summative assessment has been criticised as it is based on one test on one given day and fails to account for the influence of external factors (Bennett, 2011; Biggs, 1998). In his review, Donaldson outlined a need for good pedagogy to include assessment for learning principles. This should ensure all pupils knowing the level they are working at, where they need to go next to further their learning and the tools required to get them there (Donaldson, 2015). This information can be gathered through the use of assessment for learning (Black & Wiliam, 1998).

Assessment for learning is a concept first published in 1998 (Black & Wiliam, 1998) which outlines the four main areas of formative assessment necessary to further learning: the sharing of criteria with pupils; a high quality of both talk and questioning; offering high quality feedback and the use of peer and self-assessment. This paper is referenced in Donaldson's 2015 report; he proposes that an effective use of Assessment for Learning (AfL) could increase pupil progress by up to 50%. Whilst initially sounding like a simple solution to increase pupil outcomes, the HMCI report in 2012/13 found that assessment was criticised in Welsh schools, with almost 40% of inspections citing

assessment as an area for improvement (Estyn, 2013).

However, formative assessment and assessment for learning has also not avoided criticism. A key criticism is the resulting pressure placed on teachers. With teachers already subjected to the managerial and financial pressures from schools for high pupil performance in summative tests, assessment for learning is often considered of low priority in favour of rote learning for assessment (Ninomiya, 2016; Dann, 2014; Hargreaves, 2013). Despite this, research has shown that an increased use of 'Assessment for Learning' can increase scores gained in summative tests at the end of the year, as students have learned to take responsibility for their own learning (Das et al., 2017; Boaler, 2002). Furthermore, quality of feedback has been shown to have negative effects if it is too specific. Even if this feedback is of high quality, it is not transferable to other tasks, consequently reducing performance in summative assessments (Pinger et al., 2018; Hattie & Timperley, 2007).

When starting PTE1, I initially struggled to use AfL strategies in lessons. When teaching, I selected pupils to contribute who had volunteered an answer by raising their hands. Pupils who did not volunteer were not as engaged in the lesson as they had the option not to participate. Research suggests that disengaged learners do not take as much information from a lesson when compared with learners who are actively engaged (McKay et al., 2004) so I knew it was important for me to engage all pupils to achieve the best learning. My mentor recommended that I used the class lolly sticks to choose pupils at random in my questioning, ensuring that all pupils were ready to be called upon. She also advised that the lolly sticks would help me to assess the learning of all pupils and identify those needing extra support. After trying this technique, I found that pupils did indeed appear more engaged in the learning. It is, however, possible that pupils who do not understand the lesson will be embarrassed if they are asked a question that they cannot answer. To try and reduce this risk, I used learning partners to allow the pupils to share understanding with their peers. This encouraged lower-ability pupils to build their understanding before being questioned and promoted high-quality talk within the classroom, which is important for developing literacy skills (Smith 1998).

Throughout the placement, I also found that pupils were bringing their work to me as completed before it met the required standard and I had to repeatedly set them back to work. I decided to display success criteria on the board in my lessons so pupils understood exactly what they had to complete before bringing me their work. This meant that pupils had a better understanding of the level they were aiming for, but it also meant that often a large group of pupils finished their work at a similar time. I struggled to give quality feedback to all pupils with so many simultaneous completions so I began using peer feedback as an assessment tool. Wiliam (1998) suggested that pupils should become well-practiced at assessing their peers' work before they can spot the flaws in their own. In introducing peer assessment to the class, I hoped to encourage pupils to become more independent learners by improving their own work before asking for help. However, I also need to think about techniques to check the comments left by learners to ensure that they all receive feedback of a similar quality.

I feel that I improved my AfL skills greatly throughout PTE1 but I still have areas for development. I struggled to develop my quality of feedback as my year 2 pupils very rarely read the comments in their book. I hope to develop this more when I move to a higher year group but I also need to think of techniques to improve younger learner feedback. My other consideration is my ways of offering success criteria. Whilst displaying it on the board was successful, I did not account for weaker readers who may struggle to read this. In my next PTE, I need to allow for this and some thoughts are given in the final paragraph.

Good teaching and learning sets tasks and selects resources that build on previous knowledge and experience and engage interest.

When setting tasks, Donaldson specified that, in order to display good pedagogy, tasks should be engaging and build upon previous knowledge and experiences (Donaldson, 2015). This links closely to the constructivist theory of learning which proposes that learning occurs when new information builds on existing information; like building blocks (Bruner, 1961). In a pedagogical sense, teachers

can interpret this as a need to plan activities that build on the prior knowledge of the pupil to ensure learning, directly supporting Donaldson's principle (2015). The constructivist theory has been praised as it allows pupils to interpret information in the best way for themselves, which, in turn, gives pupils ownership of their own learning (Bada and Olusegun, 2015). However, constructivism gives pupils freedom to complete tasks in a suitable way, which limits instruction. Some pupils learn best in a highly-structured and scaffolded environment, suggesting that a constructivist approach may not be effective for all learners (Alanazi, 2016; Kirschner, Sweller & Clark, 2006).

Donaldson's principle is also supported by biological factors. If an activity is engaging, pupils will enjoy what they are doing. Research shows that, when a person feels strong emotions (such as enjoyment), released hormones trigger activity in the amygdala. The amygdala lies next to the hippocampus, which is instrumental in memory. Therefore, this activation is likely to have a knock-on effect to the hippocampus, thus improving the encoding of the memory (Roosendaal, Barseganyan & Lee, 2007; Phelps, 2004). Psychological studies have confirmed that emotionally salient stimuli (encoded whilst the pupil experiences an emotion), were easier to recall than emotionally neutral stimuli (Buchanan et al., 2006; Reisberg & Hertel, 2003). However, most of the studies into this effect have been carried out using negative emotions (Kensinger, 2007), so it is questionable whether these results could be generalised to positive emotions.

Learning theories hypothesised by Piaget (1936) suggest that children have innate schemas, which underpin their learning. These schemas are made up of knowledge that the child has encountered. If a child encounters a new situation, they draw upon their relevant schemas to solve any problem. If this theory is accepted, teachers should fulfil Donaldson's principle by setting tasks that allow pupils to draw on their schemas and take control of their own learning. This will also instil vital investigative skills, helping them to become independent learners as is specified by one of Donaldson's four purposes (Donaldson, 2015). Piaget has been criticised as his theories are based on subjective interview and observation methods (McLeod, 2018) and he may have taken supportive elements from his studies in order to find research-based support. Moreover, a behaviourist perspective would argue with the idea of a schema, as it is an internal process (Beard, 2013). The theory of behaviourism states that internal processes cannot be measured as they cannot be observed. According to a behaviourist, any conclusions drawn from internal processes are not valid (Tudge & Winterhoff, 1993).

During PTE1, I enjoyed setting activities that engaged pupils. Initially, particularly when teaching literacy or numeracy, I delivered input before measuring pupil learning using worksheets. However, some pupils were reluctant to complete the worksheets independently and needed assistance to further their learning, as they were not fully engaged in the task. I struggled to give attention to all pupils who needed support at the same time, so recognised a need to develop the tasks I was setting. I decided that some of my tasks needed to be more creative and engage pupils to a larger extent to promote their learning. I used authentic contexts (example 7) and found that pupils engaged in the activities more. Dewey (1986) outlined that pupils learn best through experiences so these authentic, engaging activities stimulated learning whilst fulfilling not only Donaldson's principle of engaging activities, but also his principle of authentic contexts for learning (2015).

I also found issues when introducing new topics to the class. I had been using tasks that were solely based on the new learning. Pupils struggled to apply their learning if they hadn't fully understood the new concept that I had introduced. I decided that tasks based on new topics were outside of the pupils' zone of proximal development (Vygotsky, 1980). When I tried adapting tasks to link with prior pupil knowledge, pupils found tasks easier to complete as they could draw on their existing learning. This was clear with my teaching on World War 2 submarines, when I incorporated pupils' prior learning on spies to create tasks around spies on the submarines (example 8). When applying this to my lessons, I found that, when pupils found tasks more accessible, they engaged more in the learning as they felt that they were able to achieve (Dweck, 2008). Moreover, as outlined in example 9, pupils were visibly proud of the results they produced when they had been fully invested in a task. As I progressed further through my PTE, I often included a play element to improve activity engagement, although some theorists suggest that learning must take place in a serious context to ensure that pupils are in the correct, goal-orientated mindset for learning (Cohen, 2006). Despite

this, play has been shown to allow pupils to develop their problem-solving and complex language skills (Broadhead, 2009) and promotes positive learning attitudes (Coolahan et al., 2000). As outlined in example 7, however, I need to establish methods of monitoring pupils when they are undertaking these activities through play to ensure that they are on task at all times.

Although I have developed my ability to produce activities that are engaging and build on previous knowledge throughout my PTE1, I still need to establish how my tasks can be measurable and show evidence of learning in my pupils. I need to be able to gauge where pupils are with their understanding and need to be able to factor this into my task setting.

Next Steps

As I move on to my second placement, I will aim to develop several areas. Firstly, I will aim to be more creative in how I communicate success criteria and how I give feedback. I need to account for weaker readers and may experiment with using WAGOLL's as a visual representation of success criteria. I also need to develop my use of numeracy as a cross-curricular area, finding authentic activities which use applications of mathematical learning. This could be through the use of measurement and graphs to integrate successfully into other subject areas. Finally, I need to consider how the activities I set can produce measurable work to build my awareness of pupil learning at all times. This will help me to tailor my learning to my class, ensuring that I am giving pupils the relevant support at all times to further their learning.

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