Introduction

08 December 2019 09:49

Assignment Title: 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
Student Name: Hannah Rose Brenchley
Student Number: 1900437
Pathway: P-PGCE

Targets from the last assignment:	What have I done in this assignment:
1) Read through your work to ensure sentences are written in full, and are not separated by full stops when a comma would clarify meaning.	As I suffer from dyslexia this target is particularly difficult for me to implement, because I can't always see when a comma is needed. However I have read through my work in detail and have attempt to rectify spelling and punctuation issues.
1) In order to fully highlight your knowledge and understanding, clarify the link between the aspects discussed in your literature review and your observations, showing how they relate to each other.	I have attempted to link my literature review to the critical reflection on my professional experience placement.

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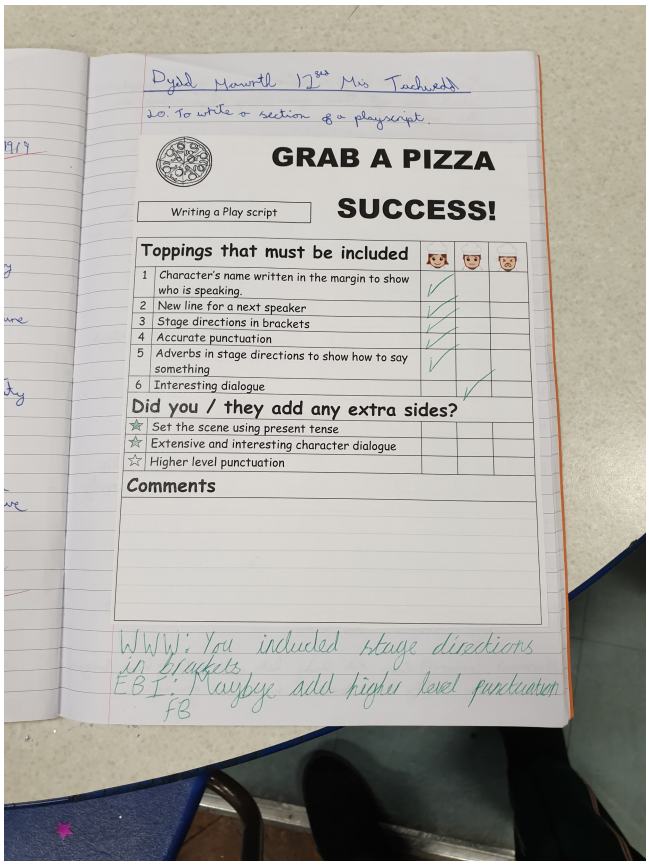
Lollypop sticks

I used lollypop sticks throughout my entire placement, in a mixed year 5 and 6 class. I used the sticks for literacy, maths and topic lessons. I decided to use lollypop sticks because it is a more effective tool then asking pupils to raise their hands. Allowing pupils to raise their hands can result in not all students being engaged because they know they can turn off and let the other pupils' answers. But if pupils know they can be called upon at any moment to answer a question they stay engaged with the lesson (William, 2011). Furthermore, through using lollypop sticks I can assess the learning of a variety of students within the class and not just those who do know the answers. It also promotes the ethos of the student's voices as the lollypops signal that every pupil has an equal part to play in the classroom. Additionally, as I was just beginning my placement, I did not know every child's name, therefore the lollypops acted as an aid to help me. (I have shown the side without the names on them to hide the identity of the children to adhere to the BERA (2018) ethical guideline).

Pupils creating success criteria



During a literature lesson, focusing on writing a script I asked the pupils(year 5 and 6 mixed class) to come up with a success criteria to mark their work against. The pupils were able to create their success criteria by comparing a wagoli script (what a good one looks like) and a waboli script (what a bad one looks like) together. Through comparing them the pupils were able to identify good features of a script which were then placed into their success criteria.
Williams (2011) researched stated that pupils perform better when they understand and are provided with the success criteria they will be marked against, therefore, I decided to implement this strategy within my teaching. Simply giving the pupils a learning objective wasn't enough they need to know what they should be doing and how they should be doing it. Discussing and engaging with the success criteria helped the pupils develop an understanding of what is expected of them, thus the work they produced is of higher standards. Additionally, allowing the pupils to write and engage with the success criteria meant they could understand it and use it.
Additionally, the pupils were tasked with peer assessing other students' work and checking if they had included everything in the success criteria. The pupils were then asked to write their partner a WWW (what went well) and an EBI (even better if). Pupils were then asked to swap books back and in a green pen, pupils were tasked with addressing their EBI.
Most of the pupils were able to complete this task independently and were able to spot the success criteria in their own and partner’s work. Through understanding what they were being assessed against the pupils were able to include all the toppings within their work resulting in some lovely and interesting scripts. The use of extra sides additionally worked well for the MAT students as they had an extension on their work to complete.

Improvement on work

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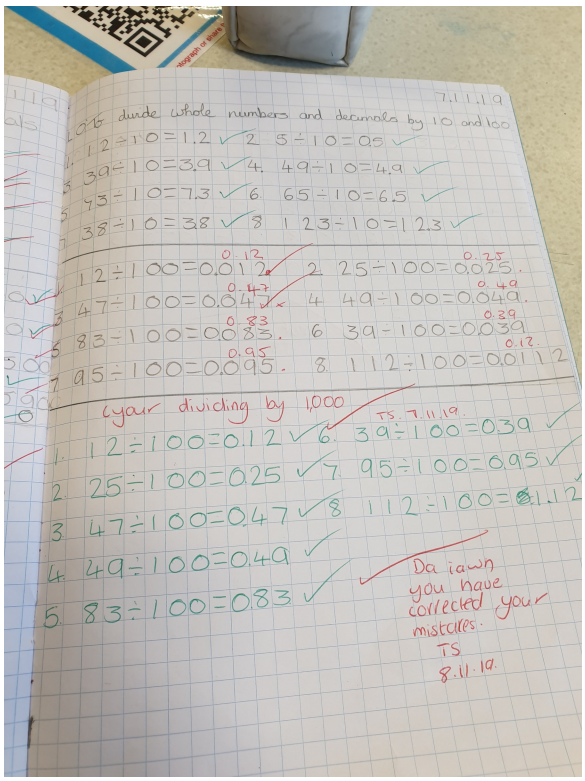

The evidence I have attached is the work of a student who was not understanding the work. I taught a maths lesson to a mixed year 5 and 6 class on dividing by 10 and 100. While marked this pupil's answers I noticed that they had divided by 1,000 instead of 100. Therefore, I made a note that they were not on task and during the next lesson I explained to the pupil their mistake and talked them through the steps. I then had them try the questions again in green pen to show they were improving on their work.

I chose to give specific comments to the pupil on their work and to discuss with them their mistakes during the next lesson because a study concluded by Williams (2011) showed that students learned twice as fast when they received constructive feedback. Simply giving the pupil a mark out of ten would not have told the student where they went wrong or how to address this use. This could have possibly effected the pupils motivated towards the work.

Additionally, because I was teaching a progression of lessons on division, I made sure to mark the pupil's work straight after the lesson had finished understanding what levels they were at. This also meant that I was able to give this student enough time to improve their work, because if I had marked it at the end of the week the division lessons would be over, and they would not understand the correct method.

The implementation of this approach worked well, through providing the pupil will effective feedback which focused on improving their work and addressing their errors, the pupil was able to correct their work and understand where they went wrong. Once this error had been addressed the pupil was able to complete the work independently and correctly having understood where they went wrong.

Literacy, Language and Communication

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Lesson Plan – Step 1

Student-teacher	Miss. Brenchley	Class:	5 and 6
AoLE or Subject	Maths	Date:	5/11/19
Lesson Focus:	Multiplication of whole numbers and decimals by 10 and 100		
Meaningful links to Curriculum	Maths (taken from the program of study for mathematics) Learners will develop their use of number skills, their use of number facts and their relationships. Throughout the lesson they will develop the ability to multiply numbers and decimals by a multiple of 10 and 100.		
Meaningful links to: Cross Curricular Responsibilities	Literacy- Pupils will share information regarding the task through discussion. (think, pair and share)		
Personal Targets (Linked to QTS and identified in weekly review)			

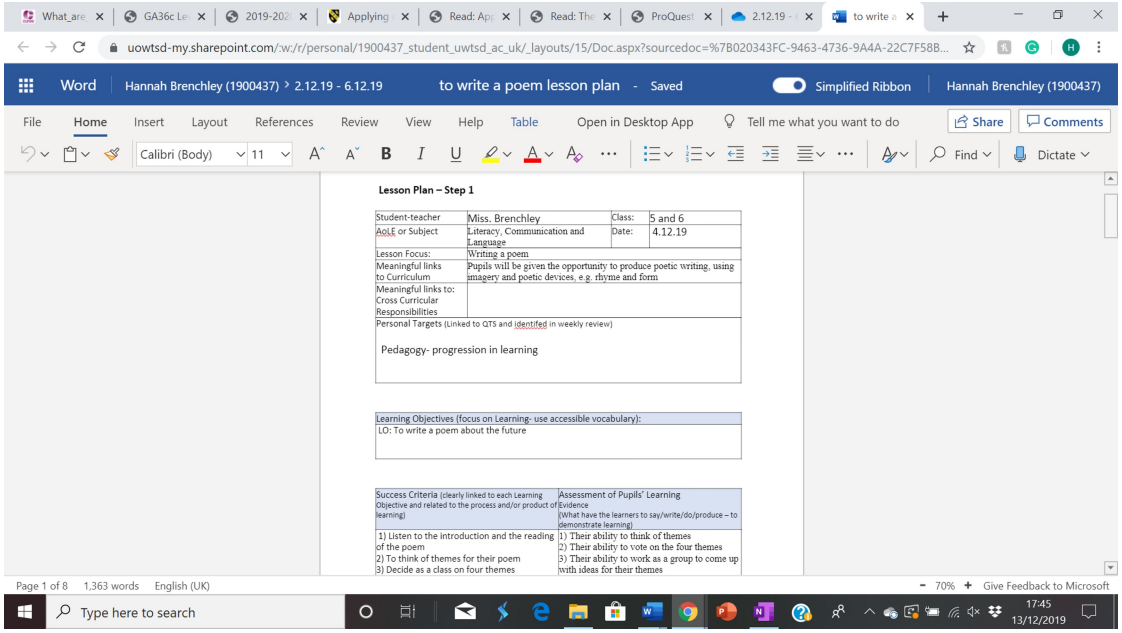
Calibri (Body) 12

284 x 100	
Next, I will challenge the children by asking them how to multiply a decimal number. I will allow the children to discuss in pairs what they think the answer will be. I will then put a common misconception answer (10 x 0.2 = 0.20) on the board and will then explain how this is wrong to the children. I will explain that for a decimal	Children will think, pair and share with a partner on what they think the answer will be. They can work in pairs to calculate or estimate what they think the answer will be.

I used the think, pair and share method in a mathematical lesson to pupils in a mixed year 5 and 6 class. Allowing the children to interact orally and to develop their literacy, language and communication skills in a mathematical lesson.
I decided to use think, pair and share because it was a new topic for the pupils and thought the method would be good for the children to discuss together what they think the answer would be. The pupils would be able to work together to answer the questions drawing on each other's strengths. I additionally, asked the children to justify to their partners how they had figured out their answers.
I hoped this method would result in the children understanding how and why they chose this answer which would strengthen their understanding of the topic. I chose to incorporate literacy within my lesson as Donaldson (2015) has highlighted that being able to listen attentively and speak lucidly is of critical importance to both thinking and learning.
The strategy worked well within the class, but a next step progression might be to pair up pupils who are not in the same ability group. This will provide pupils the opportunity to work with a more knowledgeable other (HA) and for the higher ability to have the opportunity to be the more knowledgeable other.

Humanities

08 December 2019 09:56



Lesson Plan – Step 1

Student-teacher	Miss. Brenchley	Class:	5 and 6
AoLE or Subject	Literacy, Communication and Language	Date:	4.12.19
Lesson Focus:	Writing a poem		
Meaningful links to Curriculum	Pupils will be given the opportunity to produce poetic writing, using imagery and poetic devices, e.g. rhyme and form		
Meaningful links to: Cross Curricular Responsibilities			

Personal Targets (Linked to QTS and identified in weekly review)

Pedagogy- progression in learning

Learning Objectives (focus on Learning- use accessible vocabulary):

LO: To write a poem about the future

Success Criteria (clearly linked to each Learning Objective and related to the process and/or product of learning)	Assessment of Pupils' Learning Evidence (What have the learners to say/write/do/produce – to demonstrate learning)
1) Listen to the introduction and the reading of the poem 2) To think of themes for their poem 3) Decide as a class on four themes	1) Their ability to think of themes 2) Their ability to vote on the four themes 3) Their ability to work as a group to come up with ideas for their themes

The evidence I have attached is my lesson plan for a literacy, language and communication lesson, the class was a mixed year group of year 5 and 6, I taught the entire class within the lesson. The learning objective for the pupils was to write a poem about the future, the pupils picked the themes they wanted to write about for their poems. The pupils chose four themes, the ocean, nature, Christmas, and animals because the pupils had chosen the ocean, nature and animals as their theme the I was able to make links with the Humanities.

With regards to ocean, nature, and animals the mentor mentioned that the pupils had previously learned about global warming, once they mentioned this, I had the pupils imagine what they thought might happened to these areas in the future. Then I placed the pupils into mixed ability groups so they could come up with ideas for their poems. The pupils were then able to use their knowledge of the impact of global warming from a previous geography lesson to help them write their poems. I decided to incorporate humanities within this lesson as it would allow the pupils to build upon their knowledge of the world around them and the impact global warm is having on the planet.

Additionally, through incorporating humanities into the lesson, I was able to connect the lesson to the children's lives both in and outside the school as global warming is something that is affecting their lives and the planet. Increasing the pupils knowledge of global warming and the world around them helps to develop the pupils as an ethical informed citizen as they are able to engage with contemporary issues, as well as understanding and consider the impact of their actions when making choices and acting (Donaldson, 2015).

The incorporation of humanities within this lesson worked excellently, the pupils were able to incorporate their knowledge of global warming to write some excellent poems. The pupils were able to create poems that addressed the impact that global warming is having and will have on the ocean, nature, and animals. The pupils had the opportunity to reflect upon their actions and consider what their future may look like if things don't change.

Digital competence

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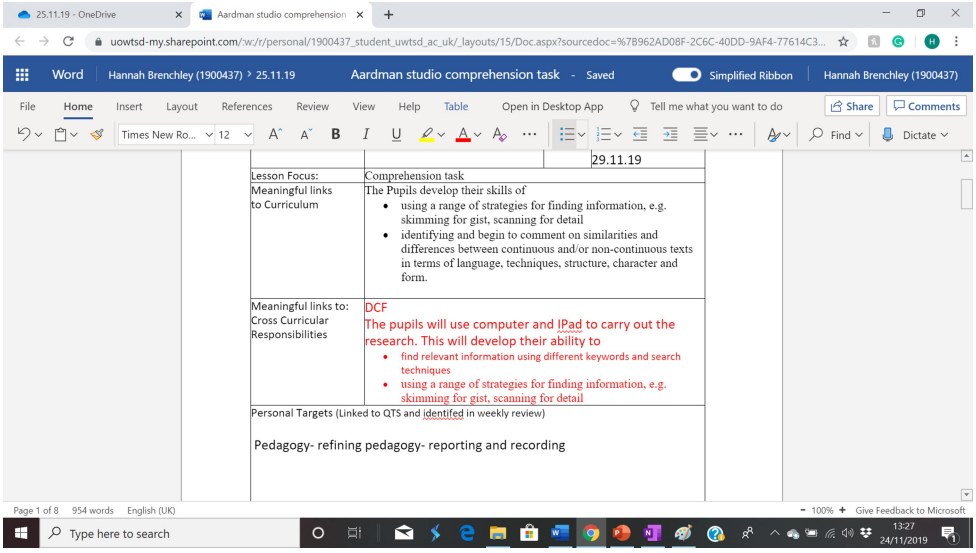

29.11.19

Lesson Focus:	Comprehension task
Meaningful links to Curriculum	The Pupils develop their skills of • using a range of strategies for finding information, e.g. skimming for gist, scanning for detail • identifying and begin to comment on similarities and differences between continuous and/or non-continuous texts in terms of language, techniques, structure, character and form.
Meaningful links to: Cross Curricular Responsibilities	DCF The pupils will use computer and IPad to carry out the research. This will develop their ability to • find relevant information using different keywords and search techniques • using a range of strategies for finding information, e.g. skimming for gist, scanning for detail
Personal Targets (Linked to QTS and identifed in weekly review) Pedagogy- refining pedagogy- reporting and recording	

The evidence I have provided is a screenshot of my lesson plan for a literacy lesson to a mixed year 5 and 6 class, focusing on comprehension. I incorporated the digital competence framework within this lesson, by having the pupils complete a comprehension task on a website. The pupils had been working to create Aardman studio characters, indeed an employee of Aardman studio had visited the school to help the students to create their characters. The pupils were given instructions on how to access the website and which section of the website to look under. The pupils were then given differentiated questions to answer. For the higher ability and middle ability pupils to answer the questions they would need to successfully navigate the website and access different articles on the website. The lower ability group were given questions that focused on one article on the website alone.

I decided to incorporate the digital competence framework, science and technology topic by using laptops because the pupils typically are given a paper-based comprehension question. Therefore, the use of the laptops I felt would engage and increase the pupils' interest because it is something they don't usually do. Additionally, it would help to develop pupils' digital competence skills, because, the pupils were given the opportunity to use the laptops to find relevant information through using different keywords and search techniques on the Aardman studio website. I felt the development of this skill for the pupils would be particularly useful when they complete a research task in the future, as the pupils would know different techniques and how different keywords can bring up different results.

The beginning of the lesson was a rocky start as the pupils were unable to access the website on the school server. I had previously checked that the website was accessible, but I had done this on the PPA computer which I didn't realise had no restrictions on it unlike the pupil's computer. However, this matter was sorted by the school's technician who unrestricted the website so the pupils could access it. Once this had been fixed the pupils really engaged with the lesson, they enjoyed the use of technology within their lesson and found the lesson more engaging. The HA and some of the MA groups were able to complete the task independently, but some of the pupils struggled with finding the relevant articles and navigating the website. The LA group were largely able to complete the task independently with even some of the pupils moving onto MA questions as an extension.

Problem solving

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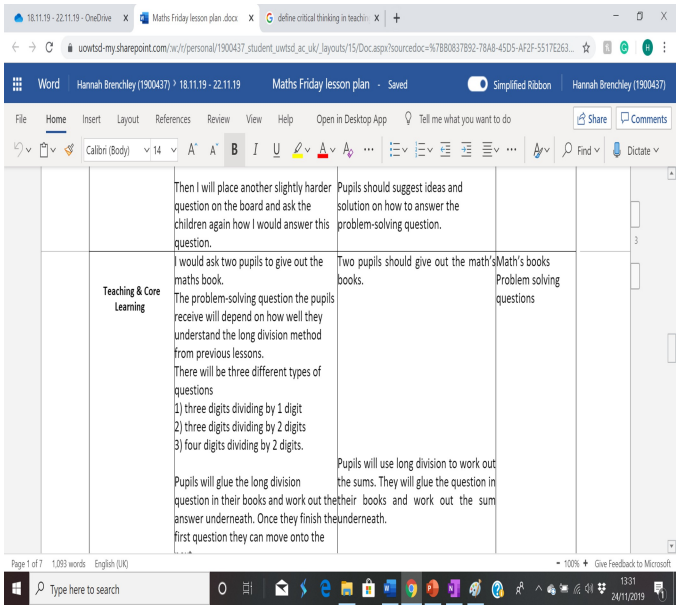
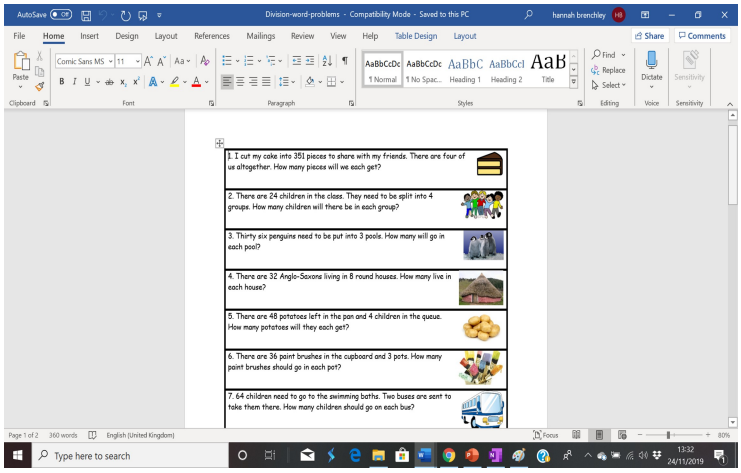


		Then I will place another slightly harder question on the board and ask the children again how I would answer this question.	Pupils should suggest ideas and solution on how to answer the problem-solving question.		
	Teaching & Core Learning	I would ask two pupils to give out the maths book. The problem-solving question the pupils receive will depend on how well they understand the long division method from previous lessons. There will be three different types of questions 1) three digits dividing by 1 digit 2) three digits dividing by 2 digits 3) four digits dividing by 2 digits. Pupils will glue the long division question in their books and work out the answer underneath. Once they finish the first question they can move onto the	Two pupils should give out the math's books. Pupils will use long division to work out the sums. They will glue the question in their books and work out the sum underneath.	Math's books Problem solving questions	



1. I cut my cake into 351 pieces to share with my friends. There are four of us altogether. How many pieces will we each get?
2. There are 24 children in the class. They need to be split into 4 groups. How many children will there be in each group?
3. Thirty six penguins need to be put into 3 pools. How many will go in each pool?
4. There are 32 Anglo-Saxons living in 8 round houses. How many live in each house?
5. There are 48 potatoes left in the pan and 4 children in the queue. How many potatoes will they each get?
6. There are 36 paint brushes in the cupboard and 3 pots. How many paint brushes should go in each pot?
7. 64 children need to go to the swimming baths. Two buses are sent to take them there. How many children should go on each bus?

I taught a mathematical problem-solving lesson to a mixed year 5 and 6 class. There is a massive range of learning capabilities within the class. Therefore, the problem-solving questions were differentiated three ways (HA, MA, LA). The questions were real- life problem- solving questions that needed to be solved using division. I had the previously taught lessons to the pupils on division. Therefore, before giving the pupils the problem-solving questions I made sure they had a strong understanding of the topic.

I decided to teach a maths problem-solving lesson because in the real world the pupils would not be given a maths problem with a sign that says this is a maths problem. Therefore, I felt it was important for pupils to experience this. Additionally, by basing my questions on real-life experiences the pupils got the opportunity to engage with real authentic learning, which should increase the pupils' engagement with the topic and in the lesson.

The problem-solving the activity was successful my mentor commented on the fact that it was differentiated lovely because it was the right amount of challenge and accessible for the pupils. The answers for the HA and MA had remainders, the pupils typically did not address their remainders however as the questions were real-life problem-solving questions, the pupils needed to address them. This meant the pupils had to figure out where their remainders would go and what to do with them. Making the problem-solving activity more realistic as the pupils had to address what they were going to do once they had worked out their answers.

Problem solving board game

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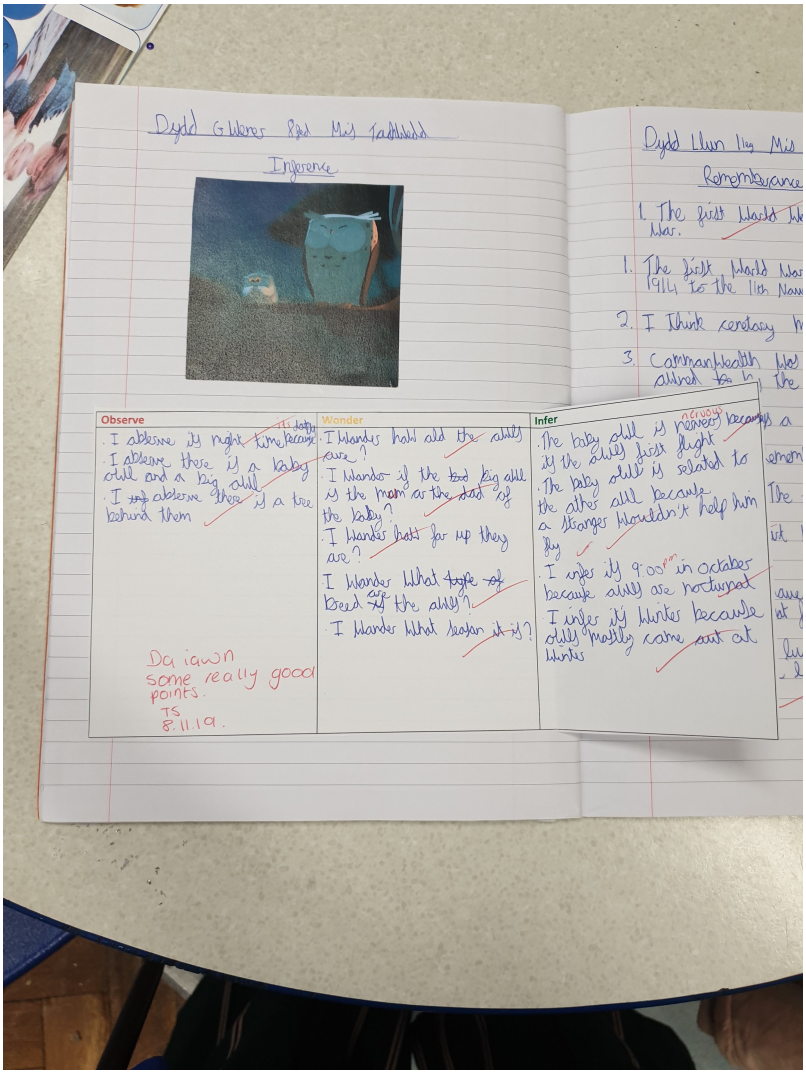
	45 ÷ 5	Thirty six penguins need to be put into 3 pools. How many will go in each pool?	81 ÷ 9	MISS A GO!	18 ÷ 3	There are 36 paint brushes in the cupboard and 3 pots. How many paint brushes should go in each pot?	Go back to the moon!	24 ÷ 8	35 ÷ 7	
21 ÷ 3										16 ÷ 4
There are 24 children in the class. They need to be split into 4 groups. How many children will there be in each group?		There are 32 Anglo-Saxons living in 8 round houses. How many live in each house?	91 ÷ 7	216 ÷ 3	There are 48 potatoes left in the pan and 4 children in the queue. How many potatoes	Go back 3 spaces	186 ÷ 3	635 ÷ 5		36 ÷ 9

As a maths plenary activity for my year 5 and 6 mixed class I created a division board game. I placed the pupils in mixed ability groups to allow the HA within the group to act as more knowledgeable other to help the LA and MA answers the more difficult questions.
I decided to use this problem-solving game within my placement because it is an engaging and fun activity for the pupils. Pupils' abilities to work out the answers and work as a team also allowed me to assess their understanding of the work and to see what level they were at.
Additionally, Hattie (2008) has observed that learning and schools for many pupils relate to simply adopting a surface approach to learning and understanding. I wanted to challenge this approach within the classroom by providing the students with an engaging problem-solving game which challenged their ideas and promoted them to problem-solve.
The game was very successful with the pupils they were really engaged with it and enjoyed worked as a team to worked out the answers. However, some of the pupils took their mistakes and errors to heart, although I offered advice and guidance to them it had little impact. All pupils worked well as a team with the pupil's discuss and collaborating to work out the answers. The use of whiteboards also acted as a visual aid for the pupils to work out their sums.

Creative and critical thinking

08 December 2019 10:01



The evidence I have shown is an inference task that I taught to the pupils a mixed year 5 and 6 class during their reading sessions. I took one group at a time every day to do the activity. The activity was differentiated three ways to meet the needs of each group. Pupils were given the picture first and asked to discuss the inferences they saw, then what they observed. Pupils were then asked to fill in the infer and observe section. Once the pupils had done this, we regrouped to discuss the pupil's wonders of the picture.

I decided to teach an inference activity with the pupils because it helps to develop their higher-order thinking and critical thinking skills. Bloom's Taxonomy of Thinking Skills goal(1956) is to move pupils from low order skills to higher-order skills, an inference task helps pupils to achieve this aim. Through inferencing, pupils learn to analyse, support ideas with evidence and to deepen their understanding through asking questions. The wonder section of the table additionally, encourages the pupils to pursue their curiosity allowing them to come up with any question they wanted to know about the picture. Thus, providing the pupils with a rich stimulating picture to explore with their peers.

I really enjoyed teaching this lesson to the pupils, the wonder section of the lesson allowed me to interact with the pupils and to discuss with them the things they were curious about it. It additionally gave me the opportunity to get to know the pupils and what their interests were and to learn a little about how they see the world.

The pupils all came up with some lovely wonders, they were able to think critically and creatively, coming up with interesting and wonderful questions about the picture. The opportunity to discuss their wonders with the group allowed the pupils to learn from each other and to bounce their ideas of each other creating a buzz of thinking and curiosity within the group.

Critical reflection

The professional experience discussed in this essay was undertaken in a town centre primary school of 372 pupils, aged three to eleven (Estyn, 2019). The school contains 12 classes and 26% of the pupils are eligible for free school meals, which is above the average for Wales (Estyn, 2019). The class in which the professional experience was carried out is a mixed year 5 and 6 class, containing 31 pupils. The pupils are organised into five groups which are set by ability not age, the work is then differentiated three ways LA, MA, and HA. Three pedagogical principles will be reflected upon and analysed within this essay. They will be critically reflected on how they were implemented within the professional experience and they will be analysed through a literature review and their importance to the teaching profession shall be examined. The three pedagogical principles that this essay will discuss, and analyses are the principles that are related to assessment for learning (AFL), cross-curriculum responsibility and problem-solving.

Defining pedagogy is problematic, as there are various definitions for pedagogy, which academics have spent a great deal of time debating and arguing over (Ko & Sammons 2010; Alexander 2000; Watkins & Mortimore, 1999). Notions of pedagogy have, indeed, varied over time, culture, across nations and contexts (Moon & Leach, 2008; Bruner, 2006; Reynolds & Farrell, 1996). Siraj-Blatchford et al., (2002) defines pedagogy as " the instructional techniques and strategies which enable learning to take place. It refers to the interactive process between teacher and learner"(p. 10). The inclusion of an interactive process within this definition is crucial, as it acknowledges the role of the teacher within the pedagogy alongside that of the theorists. Teachers do need to have an awareness of the body of knowledge that defines its practice, but they should also be given the autonomy to select the most appropriate strategies for their classroom, because classroom and pupils are vary greatly (Coe et al. 2014). Husband and Pearce (2012), indeed conclude that truly effective practices relies on the teacher making connections between ideas from research and their practice. However, teachers must consider their classroom and pupils, acknowledging their pupils' backgrounds, characteristics, and social demographics before selecting any pedagogic principles (Siraj & Taggart, 2014). The pedagogic principles selected by the teacher must then be evaluated and reflected upon with regards to its impact on student outcomes and adapted if necessary (Hattie, 2008).

However, Fullan (Fullan & Stiegelbauer, 1991), states that schools face a problem when deciding on which pedagogical principles to choose as there is an ''uncritical and uncoordinated acceptance of too many different innovations approaches" (p. 197). Indeed, there is a vast amount of literature claiming that this pedagogic method works or that this innovation works, leaving teachers groaning under the weight of these ideas (Hattie, 2008). Hattie (2008) has collected research on dozens of studies on classroom practices to help make effective pedagogic strategies visible to teachers. Furthermore, Strong et al. (2011) research has shown that an understanding of what is effective pedagogy might not be widely shared amongst teachers and their understanding might be incorrect. Something that needs to improve given the fact that Schwartz (2009) research concluded that the most important factor in student learning within a school environment is the teaching. Donaldson's (2015) new curriculum, therefore, comes at a critical time as it places pedagogic principles and knowledge of it at the centre of good teaching practice.

Donaldson's (2015) report highlights AFL as a strategy for effective teaching. Indeed, one of Hattie's (2008) key findings was the exceptional effect feedback can have on enhancing student achievement, as the ripple effect on students is enormously high (Hattie & Timperley, 2007). There is strong academic support for the implementation of AFL, reports and academics highlight it as an effective and excellent method for teaching and raising standards of learning (ESTYN, 2018 Siraj & Taggart 2014; Coe et al. 2014). AFL has been built upon the pioneering work of Black and Williams (1998). Williams (2011) defines formative assessment also known as AFL as "evidence of student learning which is used to adjust instructions to better meet students learning needs" (p. 2). Rittle-Johnson highlights (2006) the effectivness of AFL because it assists pupils in reflecting upon their learning, by promoting them to analyse and assess their own work and that of others. Additionally, it encourages and promotes Dweck's (2012) 'Growth Mindset' by promoting pupils' efforts, welcoming

their errors, offering strategies and goals for improvement and suggestions for ways to move forward. Positively impacting the learner as they can direct and evaluate their actions and efforts from their goals. Promoting them to take greater ownership of their learning and to become more independent, a skill Donaldson (2015) is keen to develop in pupils (ESTYN, 2018; Hattie, 2008; Locke & Lathan, 1992). There are a multitude of different AFL strategies to choose from, however, Williams (2011) concludes that when teachers try to implement more than two or three approaches AFL often backfires, and teachers revert to their old ways. Williams (2011) suggests that a teacher should instead choose one or two strategies of AFL to implement and if these strategies succeed, the teacher should make them a natural part of the classroom and the learning experience.

Furthermore, Donaldson's (2015) has highlighted approaches that promote problem-solving, critical and creative thinking as good teaching practice. Creative and critical thinking is a vital part of problem-solving as they provide pupils with the necessary skills to be able to analyse, synthesis and evaluate, skills which are included in the higher-order skills section of Bloom's Taxonomy (1956) (Donaldson, 2015). Eughchi (2015) indicates, the effectiveness of creating a problem-solving task that relies on real life problems, because it promotes richer, deeper and indexical knowledge amongst students which aids them in transferring their learning and knowledge to new situations. An approach Grabinger et al, (1997) classifies as successful learning, because when pupils develop a deeper understanding of a topic, they learn information in a much more effective way, creating an extremely powerful learning experience for them (Bransford et al. 2000). These skills are highly valued within the current 'knowledge economy' (Drucker, 1993) where employers want employees, who have a conceptual understanding of complex concepts and who can creatively generate new concepts and ideas (Sawyer, 2008). However, PISA's (2012) results indicate that students are not being prepared for the knowledge economy specifically in relation to their problem-solving abilities. A large majority of schools operate under Rogoff (1990, 1998) model of transmitting knowledge where the knowledgeable teacher simply transmits knowledge to the pupils who then acquire it. This process of learning creates standardization among pupils, who are not being taught life-long dynamic skills which encourage them to be flexible, creative, deep thinkers and problem solvers (Sawyer, 2008). Sawyer (2008) indicates, that it is the current structure of the school model that makes it hard to create learning that stimulates deeper understanding and the development of critical problem-solving. However, the literature speaks to how important these approaches are because they promote a deep understanding amongst pupils. Donaldson (2015) placing them in the twelve pedagogical principles should increase the use of these approaches within schools and encourage them to be used creatively.

Additionally, Donaldson (2015) has highlighted the importance of a cross-curricular approach as an example of good practice. Cross-curricular learning occurs when "two or more curriculum subjects are used to throw light upon the understanding of another subject" (Barnes, 2015, p. 22). Barnes, (2015) indicates, that using a cross-curricula approach allows teachers to be more creative when planning lessons because they do not have to stay confined within one subject matter to teach, they can cross boundaries of subjects. Which Siraj-Blatchford's et al, (2011) research shows strengthens pupils understanding of other topics through providing pupils with the opportunities to reflect upon their work and transfer skills and knowledge to other areas of learning. Siraj-Blatchford & Taggart (2014), indeed, classifies classrooms which make cross-subject and extra-curricular links explicit to their pupils as excellent practice, because these lessons engage pupils at all levels and install in them an enthusiasm for learning. Furthermore, Cremin (2015) indicates that using a cross-curricular approach allows teachers to relate themes to the daily lives of their pupils, which increase pupils engagement as they can see a connection between the topic and their lives. Furthermore, Barnes's (2015) research concludes that teachers have seen a significant improvement in behaviour, achievement, and motivation through using a cross-curricular approach. However, teachers often believe cross-curricular lessons will result in not enough time being left for the rest of the curriculum to be taught undisturbed (Barnes, 2015). Barnes (2015) on the other indicates, that in the hands of a confident and efficient teacher cross-curricular lessons can be planned with plenty of time for the rest of the curriculum, and applied to any two different subjects.

In conclusion, defining pedagogy is far from easy or straightforward, however, successful pedagogies can develop, when teachers use their knowledge and understanding of research to

support their planning and practice (Husband & Pearce, 2012). There is plenty of evidence and information which identifies effective pedagogical principles, but their effectiveness depends upon teachers selecting the most appropriate principle for their classroom, reflecting upon them and analysing their impact on student outcomes and learning. This essay has highlighted AFL, cross-curricular approaches and approaches that encourage problem-solving, critical and creative thinking as good pedagogic principles because these principles have a positive impact on student's progress. They increase student engagement, help them to develop higher-order thinking skills and allow them to engage with the curriculum and the subjects being taught, creating an engaging and authentic learning experience for pupils.

At the beginning of the professional teaching experience I felt nervous about implementing AFL within the classroom. I was fortunate that my placement school already had many AFL strategies in place and the pupils were familiar with the strategies. William and Black's (1998) research concluded that AFL can effectively double the speed at which pupils learn. This is further enhanced by Hattie's (2008) research on pupils' learning which concluded that the single most effective influence on enhancing achievement is feedback. Therefore, I felt it was crucial to implement AFL in the class, I began small with the use of lollypop sticks as an assessment strategy. William (2011) highlights that if pupils know they can be called upon at any moment to answer a question they stay engaged with the lesson. Furthermore, through using the lollypop sticks, I began to develop my questioning skills by using a combination of higher and lower order questions to evaluate the understanding of the pupils. At first, I found asking evaluative questions difficult, and that they weren't having the desired effect and impact on the pupils' learning. I realised that I needed to plan my questions beforehand, as part of my lesson planning, to make sure that the questions would assess the understanding of the pupils and to address any misconceptions they might have.

As the placement progressed, I became more confident in my ability to use AFL strategies within the classroom. I found that when I simply provided the pupils with the learning objectives, they became somewhat forgotten about by the students, although, they knew it was their objective, they couldn't say why or how they had achieved this. Williams (2011) notes that just posting a learning objective isn't enough and does not ensure pupils understand what they are learning. Within my placement, I chose to create the success criteria with the pupils for them to better understand what they were supposed to be learning. Williams (2011) research has shown that pupils perform better when they understand what they are supposed to be learning. Indeed, spending time discussing and engaging with the success criteria that the pupils would be marked against resulted in the pupils producing better work as they understood what was expected of them.

However, one aspect I did find challenging is knowing how to write written effective feedback. When I marked the work of one pupil, I realised they had not understood the work, in the next lesson I addressed this issue with the pupil. From the conversation they understood where they had gone wrong and where able to improve their work. But I struggled to put the effective feedback the pupils needed into written words, I found it easier to orally explain to them their next steps and their areas of improvement, a common side effect of my dyslexia. Williams (2011) indicates that in order to achieve higher student engagement the teacher must provide feedback that moves the learner forward. I recognise that I need to develop my written effective feedback, as there may not always be the opportunity to speak to pupils individually, and written feedback may be the only opportunity they have for feedback.

I aim to improve my use of written effective feedback in PTE1 part 2, because I recognise the impact it has on student learning. I additionally, recognise the value of AFL strategies within the classroom and will continue to use them and develop my implementation skills within my next placement.

At the beginning of my professional teaching experience, I found using a blend of approaches difficult. Sawyer (2008) indicates that in order to design effective problem-solving questions a teacher needs to know what the children know when they come into the classroom. This was something I did not know at the beginning of my placement. Although I had spoken to my mentor about the pupils' abilities and their level of understanding, it was still difficult to plan a lesson that would challenge them, as I did not know their prior knowledge. Thus, I asked if I could observe a problem-solving lesson taught by my mentor, from this I learnt that the pupils follow a structure when problem-solving. Thus, I made sure to incorporate this structure within my lesson to help structure the pupils' problem-solving in a framework they understood.

As the placement continued, I became more familiar with the pupils and their prior knowledge and felt confident in delivering a problem-solving lesson. I taught a continuous session of math lessons leading up to the problem-solving lesson, so I could fully understand the pupil's prior knowledge and build upon it within the lesson. I decided to base my problem-solving questions on real-world problem-solving issues as noted in illustrated example 1. Bransford et al., (2000) states that using real-life problem-solving questions results in pupils developing a deeper understanding of a subject creating a powerful learning experience for the pupils. My use of real-world problems had excellent results the pupils were engaged and enthusiastic about the lesson as evidenced by my mentor's comments. Having seen the impact real-life problem-solving questions can have on pupils I am keen to further develop my use and skills of this approach.

Additionally, I decided to incorporate problem-solving questions into a mixed ability plenary game. Within this lesson, however, I missed an opportunity for learning, Hattie (2008) promotes the ethos that errors should be welcomed within the classroom because they are levers for enhancing learning. But within this lesson, the pupils took their mistakes and errors to heart, although I offered the pupils guidance and advice it had little impact. Dweck's (2012) Growth Mindset highlights that we learn through challenge and that we should see are errors and mistakes as ways to learn. I recognise that this is something I need to address and develop in PTE1 part 2 and incorporate in my learning practice to make the pupils feel like they are learning in a safe environment.

Furthermore, Husbands and Pearce (2012) research has concluded that there are too few teachers who are developing pupils' higher-order thinking skills. I decided to plan an inference task that would develop the pupils' critical and creative thinking skills. I recognise to develop pupil's creative and critical thinking skills I need to set more tasks that are not simple comprehension tasks, I need to set tasks that will stretch and challenge pupils thinking. This an area, I am keen to develop further in my next placement by planning more activities that develop the critical and creative thinking of pupils and which encourages pupils to problem-solve as I felt I didn't have enough opportunities to do so during this placement.

At the start of placement, I was unsure how I would incorporate a cross-curriculum approaches into my lessons. Barnes (2015) indicates that a well-delivered cross-curricular approach is a way of incorporating creativity within schools. The EPPSEM (2014) study, however, showed that there were few instances of teachers who made cross-curricular links. Indeed, I found incorporating some areas of learning much easier than others, I found in particularly incorporating numeracy within lessons

particularly difficult because maths is a strong stand-alone subject. I was, however, able to incorporate literacy into a math lesson by using the think, pair and share method with the pupils encouraging them to discuss and analysis the questions asked. Alexander (2008) indicates that dialogue and meaningful discussion are essential contributions to children's learning and language. I found that giving pupils the chance to discuss and analyse the math questions meant they could justify their answer and strategies resulting in them thinking more deeply about their answers.

As the placement progressed, I understood how to incorporate another areas of learning into lessons more easily. I found it easiest to link literacy with another areas of learning as illustrated in example 1, in which I incorporated humanities into a literacy lesson. The children were tasked with creating a poem about the future, because they chose the themes of ocean, nature, and animals, I was able to incorporate the impact of global warming into the lesson. However, I didn't realise the pupils had prior knowledge of global warming, it was the mentor who reminded the pupils of the previous work they had done on global warming. Hattie (2008) indicates that if we don't know the prior learning of pupils, it can become the stumbling blocks for future learning. I can now see I should have considered the prior learning of pupils before delivering and planning this lesson because it would have allowed me to built upon their prior knowledge. Therefore, I should have checked with my mentor the level of prior learning the pupils had on the subject before the lesson.

Furthermore, as the placement developed, I become more comfortable implementing cross-curricular approaches within the classroom. An approach implemented was the use of the digital competence framework within lessons. Higgins' et al, (2012) research has concluded that the use of technology within a lesson is beneficial in supporting lower-attaining pupils and pupils from disadvantaged backgrounds. However, instead of deciding what the pupils were going to learn and then linking it to technology, I would start with the technology aspect then attempt to link it to something the pupils needed to learn. Adopting this approach meant I did not focus on the types of learnings that would aid pupils in developing their digital competence. I recognise that this an area I need to develop further, Painter & Bamfield (2015) argue teachers should adopt a learning centred approach by starting with the learning objectives first and technology second, to make sure ICT is used appropriately . Additionally, I recognise I need to explore and discover potential technologies that can be used within the classroom to ensure the successful use appropriate of technology and learning.

During my next placement, I recognise I need to develop my use of cross-curricular approaches in particularly with regards to numeracy. Additionally, I aim to develop my learning centred approach when it comes to digital competence by focusing on the learning first and the technology second.

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