

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 21:13

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Pathway: PGCE Primary

Targets from previous assignment:

	Target	What I have done in this assignment...
Target 1	When making recommendations move forward with originality and independent thought.	I have given ideas on both reflection and personal development targets using independent thought. Not all my points in terms of reflection in this assignment have a literature background, rather personal experience.
Target 2	n/a only one given	n/a only one given
Target 3	n/a only one given	n/a only one given

One Note Link:

https://1drv.ms/u/s!AhNRS2rHqYwwmDYQboET_TTTCbFE

Example 1a

04 January 2020 21:20

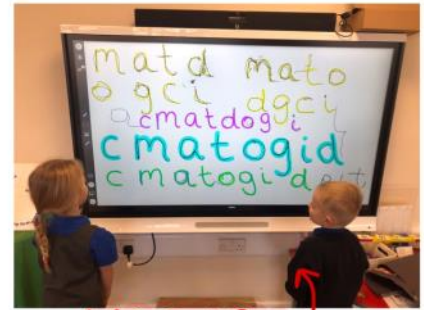


Cross-Curriculum Responsibility: Using the DCF

DCF

"Work together with a partner/partners on a piece of digital work"

"Control devices by giving them instructions"



LANGUAGE

NUMERACY

CONTEXT:

The children in the images are working in groups, figuring out how to change activities and fix problems as they occur on an interactive whiteboard. The images are from numeracy and language lessons.

enhanced activity

The rationale is to fulfil aims of the DCF using a broad range of activities. Pupils got a choice of activity or to independently draw or write. Pupils also gained social skills in cooperation, team-work and sharing.

RATIONALE

Cooperation and team-work

EVALUATION:

Further developments can be made so pupils are creating not just using digital media. However, it is an independent, enhanced activity in these examples, and a relatively new task for pupils.



Journal Entry (from class teacher)

children enjoyed interactive ICT game.

Example 1b

04 January 2020 21:22



RESOURCES

SECTION OF THE LESSON PLAN

LNF: cross curricular responsibility

CONTEXT:

Using the story of 'Toad and Frog' in the whole class input and focus tasks of a mathematics lesson. Large buttons were used as a visual aid to the story, and included in the focus task. Children picked out the key features of the buttons to identify the missing button in the story.

LNF:

"identify information from a text using visual features and words."

Time	Activities/Methodology/Key Concepts (Teacher's Role – including key teaching points, differentiation strategies and key questions)	Pupil Tasks (Pupils' role –including differentiation, engagement in formative assessment and homework)	Resources (including Health and Safety requirement)
Opening phase (with links to prior learning)	Introduce the story of Toad and Frog and the missing button. Use the buttons alongside images on the screen to create context and immersion into the story How can we sort? Colour, shape, size	Pupils to answer questions about the buttons at the end. Which is bigger? Does this one have a pattern? Turn and talk about how we can sort (following prompts)	Toad and Frog story: Lost button Laminated button images Powerpoint of images from the story
Teaching & Core Learning	Focus task 1: sorting Toad's many buttons. How might we sort them? Leading into which has more. ED Focus task 2: sorting pom poms with TS. Different colours, sizes, glittery	FT 1: children to sort the buttons by categories within the story (size, shape, colour, pattern, amount of holes). Which side has more? Children to count to check their answer, reinforcing numbers up to 10	FT 1: buttons from the story, two sorting bowls FT 2: pom poms and sorting tray with 4 sections

A sparrow flew down.
"Excuse me," said the sparrow. "Did you lose a button? I found one."
"That is not my button," said Toad. "That button has two holes. My button had four holes."
Toad put the button with two holes in his pocket.
They went back to the woods and looked on the dark paths.
"Here is your button," said Frog.
"That is not my button," cried Toad. "That button is small. My button was big."
Toad put the small button in his pocket.

PART OF THE STORY

RATIONALE:

The lesson originated as a fun idea to engage interest in the topic and skills. Whilst writing the lesson plan, I realised the link with cross-curricular responsibility in terms of comprehension/oracy for retelling



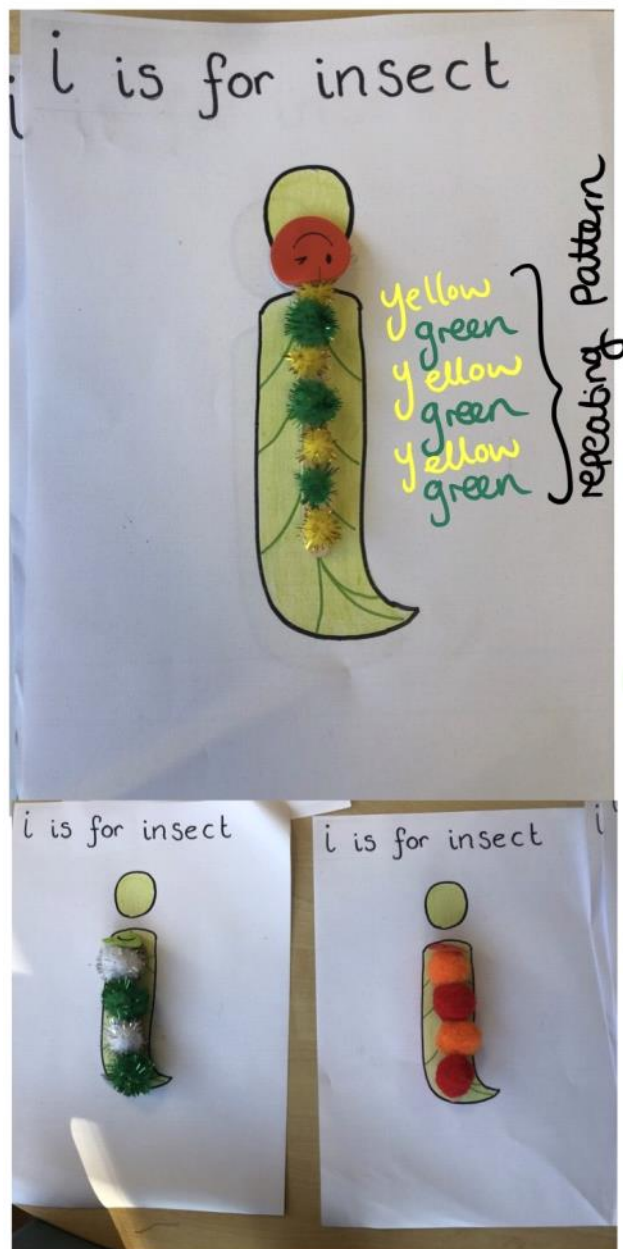
introducing the story + Questioning
} focus task directly linked to the story

EVALUATION:

The lesson was successful, and the children enjoyed both the story and the task. The concept could have been brought across more lessons, however, it still met the LNF aim as a stand-alone lesson.

Example 1c

04 January 2020 21:22



CROSS-CURRICULUM RESPONSIBILITY: LNF

Context

The images are from a skills (literacy) lesson. The whole class was completing a lesson on the sound 'i', exploring words (i is for insect). There were some children who wanted to and asked to make a repeating pattern, which they did in a previous maths lesson.

LNF

"transfer mathematical skills to play and classroom activities"

Rationale

Whilst the children were exploring the letter and sound 'i', it was a good opportunity to get in cross-curriculum aspects: such as maths and creative arts.

Evaluation

It was written into my lesson plan to include the LNF aspect of repeating patterns, but the children deciding to and wanting to use their mathematics skill in the language lesson shows the success of meeting the aim of the LNF

Example 2a

04 January 2020 21:20

MD
show me used → children
using fingers.
extended children from yesterday
using numbers up to 10.
Thumbs Up used - encouraging
participation from children

class teacher

JOURNAL ENTRIES:

senior mentor

✓ asked the class the
answers.
TLAC in use.
✓ good engagement / there
- how do you know
all children are on
track? (when on the
carpet)
- how can you use
your voice for
impact / support?
✓ good use of turn
and talk.
✓ use of Welsh 3, 2, 1
✓ good resources / classroom
prepared
- how do you
know how the res

using AfL strategies through TLAC (Teach Like a Champion)

Context:

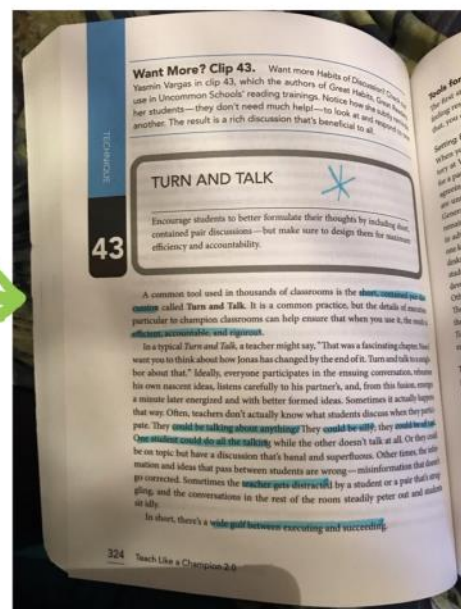
The placement school uses a whole school strategy called 'Teach Like a Champion'. This involves a shared language amongst all staff in the school. The strategies highlighted draw parallels with AfL strategies, however are what the children already know. The school insists on TLAC being used in all lessons by all teachers.

I bought a copy of the textbook for TLAC 2.0, the version the school uses. I have read the relevant sections and try to include them in my lessons effectively.

Both my class teacher and my senior mentor have highlighted that I do use TLAC strategies in my lessons: show me (similar to secret squirrel), turn and talk (think, pair, share) and thumbs up/ down in my questioning techniques.

TLAC (parallels) → AfL

Annotations in my TLAC textbook



Example 2b

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The image shows two examples of student work on subtraction problems. The top example features a drawing of Santa's sleigh with reindeer and presents, with the equation $4 - 1 = \underline{\quad} 3$ written below. The bottom example features a drawing of a train with four cars, with the equation $3 - 1 = \underline{\quad} 2$ written below. A red arrow labeled 'visual' points to the train drawing. A purple arrow labeled 'abstract' points to the equation $3 - 1 = \underline{\quad} 2$. Below the train drawing, there are four boxes containing the numbers 2, 3, 4, and 5, each with a dotted line for tracing.

4 - 1 = 3

3 - 1 = 2

Visual

abstract

NUMERACY:
Subtracting
1 within
five.

FEEDBACK:

Timely

Chance to
act upon

Context:

In both pictured examples, the **whole class** was completing a worksheet. The children completed their work in **small groups**, which allowed for **immediate feedback**. Children completed their work, had it marked and **discussed with them**, and the chance to correct or improve their work before leaving the task. The lesson was on subtracting one from within five.

Rationale:

To implement **AfL strategies**, and allow children to **see their mistakes**. Given the age of the children and how important number formation is, to get them to **repeat** the incorrect formation **reinforces good habits**.

Evaluation:

Pupils were given the chance to **work on a learning objective** set for most mathematics lessons. As I have been in the class a relatively **short period of time**, I have no way of tracking the **long-term success** of reinforcing number formation with **immediate feedback**.

Example 2c

04 January 2020 21:23

Practised blending words
Modelled to children who weren't segmenting correctly.
Student/teacher echo used.
Modelled to children how to complete worksheet.
→ First sound, middle and last sound.

JOURNAL ENTRY

I decided to use a modelled example as a way to share criteria as the class teacher has told me that previous classes had struggled with this task. This AfL strategy seemed the most appropriate way to share success criteria based upon the task and the age of the children.

RATIONALE
AfL: Assessment for Learning

MODELLED EXAMPLE: Sharing Criteria

EVALUATION:

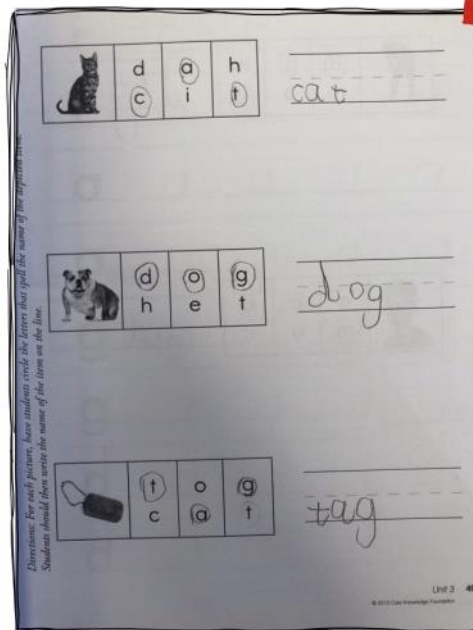
Following the modelled example, most pupils were able to independently complete the worksheet (below).



CONTEXT

Whole class skills (phonics) lesson. A potentially difficult task and a concept the class had not dealt with yet:

- First sound
 - Middle sound
 - Last sound
- } new concept
- The lesson was part of a scheme of work called 'Core Knowledge' which the school follows as part of a knowledge-rich curriculum.



Blending and Segmenting

Example 3a

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CONTEXT

The whole class input of the lesson consisted of a story of various passengers on a bus and where they got off and why. During the story the children answered questions about how many people were left on the bus at a given time, with the aid of a bus drawn on the interactive whiteboard which I drew and erased as appropriate. Children then used the counting bus to take away passengers from their own bus, with direction from the LSA.

Example of my drawn bus on the whiteboard

Very Similar!

1 LESS THE COUNTING BUS

The wheels on the bus...

Engaging

The LSA was singing the wheels on the bus with the pupils during the input which further increased engagement

Whole-class numeracy lesson
Year group: Reception

Evaluation

The use of this particular resource was effective in this class. The task was proven quite difficult, however the children showed great resilience and perseverance. Perhaps this was the case due to the context of the lesson, they were motivated and excited by the bus.

RATIONALE:

The rationale was to find something fun and engaging for the children to complete, once this activity was found, I planned the story-based input to grasp their attention. Most children have been on a bus, and witnessed people getting off. This gave an authentic context to their learning and gave another dimension for engagement.

Evidence of Success

JOURNAL

MD 28.11.19

children were engaged during the intro.

Lovely activity set for 1 less using laminated bus.

Written by class teacher whilst observing the lesson. My reflection of the pupil engagement was mirrored with my class teacher who was writing notes on her observation of my lesson. This consistency suggests accuracy of my evaluation.

Introduction to a new topic - **SUBTRACTION**

Case Pupil

$$4 - 1 = ?$$

$$2 - 1 = ?$$



These pictures were taken in a later lesson, whilst completing an enhanced provision task. This particular pupil had been so engaged by the counting bus activity that she had drawn her own bus and was independently taking one passenger off systematically and counting how many were left bus. This highlights the enjoyment level from the mathematics lesson I had taught earlier. This individual pupil was very excited to show me her work she had completed!

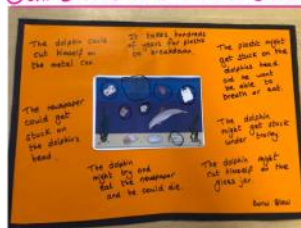
Example 3b

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Receptions whole-class

Coral Reef

BUILDING ON PREVIOUS KNOWLEDGE:



In a previous lesson, the children had discussed what **plastic pollution** is, why it is **harmful** to animals and what we can do to **help reduce** plastic pollution.

The children came up with their **own ideas** of how plastic pollution could harm ocean life. The children were **particularly concerned** about this particular global issue, therefore I decided to **develop this further** in my next lesson.

OVER 100 PIECES OF HANDMADE CORAL!

Knowledge and Understanding of the World



THE SHOWCASE



The lessons:

- 1 Creation
- 2 Structured play



PUPIL VOICE

creative arts

The children spent one double lesson creating over **100 pieces** of coral for the class reef, which was then put together 'overnight' by myself. The children then **enjoyed** the display of their work the next day. Then, after lunch, plastic was to be put into the reef. It was then the children's task to **remove the plastic** with giant tweezers.

Ingredients List:

- tissue paper
- pipe cleaners
- glitter glue
- play dough
- paint
- Cocktail sticks
- Cheerios
- Stones and shells
- a **LOT** of motivation, enthusiasm and dedication!

developing fine motor skills

EVALUATION

very successful!

Both myself, and my class teacher are in agreement that this is my most successful lesson of my PTE placement. The children found the topic **engaging**, possibly from the use of **pupil voice**. Furthermore, the children took a lot of care over their work, possibly due to being **highly motivated** about the topic. I feel I planned very successfully and found tasks which were **challenging, yet achievable** with the use of **colourful, fun resources**.



Lights Out?

Children were so engaged in the topic, they were asking for further ways they could help our environment. They enjoy turning out the lights to save our oceans from pollution!



RATIONALE

The rationale was built with **pupil voice** in mind, they were **particularly concerned** about our oceans, so I used a beautiful area of our ocean, The **Great Barrier Reef**, as my inspiration for the lesson. Many children were **visibly upset** when I showed them images of the coral reef dying, and with plastic debris littering its surface. I decided to use the **creative arts** alongside **knowledge and understanding of the world**, to create a **cross curricular and engaging** lesson for the pupils.

The children were given the opportunity to **showcase** their work in a **whole school** showcase. This work included all work completed during **global dimensions week** from all pupils. Parents were invited to come and look at their child's work. This encouraged the children to talk about plastic pollution at home with their parents/guardians and fosters the **home-school link**.

The children from reception were **very obviously proud** of the work they had completed. The coral reef got lots of praise from other teachers and the headteacher. Pictures of their work, and the children using it for independent play were put in the **school newsletter**.

Example 3c

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OUTSIDE

OUR BASIC NEED: SHELTER

CONTEXT

The context of the lesson is building upon **previous knowledge** of our basic **human needs**, in relation to the **UNCRC rights of the child**. The class watched a story of 'The **Three Little Pigs**' during the input. The children then discussed what makes a **suitable shelter** for living in. This related to this particular version of the story as to why the Big Bad Wolf wanted to get into the pigs' house - he lived in a cold, wet cave. The children then worked together as a **whole class** to **create a shelter in forest schools**. The class then used bricks and 'cement' (play dough) to **make houses** in small groups. This **prompted the questions** of why bricks and cement would make a better house.



INSIDE

Bricks

'cement'

Rationale

The rationale was to use the **Foundation Phase Framework** to use **indoor and outdoor environments**. I wanted to use **cross-curricular learning** of **comprehension and oracy** from the story, which allows children to **form their own ideas** and relate to their own **experiences**. Furthermore, I used the skills of the class teacher, who is qualified in **Forest Schools**.



Evaluation

The children were **motivated and engaged**. They were able to draw upon **prior knowledge and previous experiences** to form their own ideas. They worked well in small groups and as a whole class, promoting **quality team work and collaboration**. However, upon reflection, it could have been beneficial to engage the children through the use of a **story book** of which they have access to, to enable them to **revisit independently**.

Story:



the three little pigs

Critical Evaluation of the Implementation of Teaching and Learning Principles with Literature Review:

04 January 2020 21:21

The education reform in Wales is approaching and transforming the principles of teaching and learning of which the new curriculum for Wales 2022 will be based upon. Donaldson's review (2015) concluded twelve teaching and learning principles. This critical evaluation and literature review will delve into the theory behind and application of three of these principles: *good teaching and learning means employing assessment for learning (AfL) principles; good teaching and learning regularly reinforces cross-curriculum responsibilities, including literacy, numeracy and digital competence, and provides opportunities to practice them; and good teaching and learning sets tasks and selects resources that build on previous knowledge and experience and engage interest*. Furthermore, this evaluation will reflect upon and critically evaluate my personal pedagogical practices in relation to the three aforementioned principles.

Good teaching and learning means employing assessment for learning principles.

There are two types of assessment- summative and formative. The assessment of the outcome, usually at the end of a unit of work, is known as summative assessment (Dolin et al., 2018). Formative assessment is the ongoing monitoring and assessment of learning, rather than a definitive outcome (Gardner, 2012). AfL is often used interchangeably with formative assessment which follows similar principles. In previous educational models, assessment and teaching and learning act as separate entities; knowledge and skills are taught and learned between being assessed (Graue, 1997). Whereas more recent educational models involve the integration of assessment with teaching and learning – AfL (Fautley and Savage, 2008). Despite extensive research concluding significant benefits of the use of AfL (Black and Wiliam, 1998; Stiggins, 2002), Donaldson (2015) reports the minimal use of AfL in Wales. This assignment will provide an overview of this research and literature, discuss my use of AfL in my pedagogical practice and suggest improvements to my use of AfL strategies.

The Assessment Reform Group (2002) describe the process of AfL as: where the pupil is currently, where the pupil needs to go with their learning and how to get the pupil to that point. It is a constant regulation of their learning (Wiliam, 2002). The concept of AfL was first introduced by Black and Wiliam in 1998 in a publication called '*Inside the Black Box*'. In this publication, four elements of AfL are described: *sharing criteria; quality of talk/quality of questioning; use and quality of feedback; and peer- and self-assessment*. Within the annotated examples, I have provided examples of the first three elements as these are most obvious within a reception class. However, it should be noted that the introduction of peer- and self-assessment should be used within the foundation phase, and in reception (Drake, 2013). Many of the concepts cross over within, and one peer-assessment tool which I found to be particularly useful is the use of '*thumbs up/down*' in response to a pupil given answer or teacher example. This technique is discussed further in the principle '*good teaching and learning sets tasks and selects resources that build on previous knowledge and experience and engage interest*', in relation to prior knowledge (Donaldson, 2015).

Sharing criteria with pupils can be vital to their learning success, if the pupil does not have a clear concept of the standard then it cannot be expected that they will achieve success (Sadler, 1989). The purpose of sharing criteria is to give pupils the idea of the same standards and expectations as their teacher – most pupils will not have the same idea as their teacher unless it is clearly prescribed to them (Hattie, 2010). The difficulty I faced when implementing this particular aspect of AfL in PTE1, was that in a reception class, the tasks consist of minimal steps. Having never taught in the foundation phase, this was a difficult concept for me to grasp; how to implement all areas of AfL effectively. To share criteria with my learners, I mainly used modelled examples (Annotation 2c). Whilst modelling an example, I would highlight and reiterate the important criteria of the task. This shared the criteria with the pupils in a way in which they could understand. This is an element I am keen

to develop further in my next placement in KS2, by co-creating success criteria with my pupils.

Questioning is a technique that, when used correctly, can be a simple and effective AfL strategy (Black et al., 2004). The *Instructional Core* (Hopkins and Craig, 2009) consists of a triangular model containing three concepts: student engagement, curriculum, teaching and learning strategies. Hopkins and Craig (2009) conclude that each of these concepts are strengthened by quality questioning. Quality questioning can describe different elements of questioning, such as the appropriate wait time for an answer, or different questioning techniques. The most effective wait time for an answer is conflicted by different researchers (Maroni, 2011; Black et al., 2004) but it is unanimous in suggesting that teachers should leave some thinking time between asking a question and getting answers. There are many different questioning techniques that can be described in AfL, the ones I used within PTE1 are those that are synonymous with the techniques described in Teach Like a Champion (TLAC) (Lemov, 2010) as this is used in my placement school. One technique used in TLAC is *'turn and talk'* which is very similar to *'think, pair, share'* – where pupils think about an answer, discuss with a partner and share with the class. This was successful and the children were aware of the concept of *'turn and talk'* as they do it every day in their learning. However, due to the set seating arrangement, the pupils always discussed with the same partners, not getting the collaborative techniques with a range of different peers.

Feedback can be a particularly important aspect of learning to enable pupils think about issues and improvements and guide them where to go next in their learning (Donaldson, 2015). For feedback to be effective, it must be given soon after, or during, a task and with time to act upon the improvements or corrections suggested (William, 2011a; McLaren, 2012). Feedback must also be given in a language to which a child of that ability can understand – for example, it would be inappropriate to give feedback in the language of a concept the child has shown they do not understand (Hargreaves, 2013). Verbal feedback can be seen as more important and effective than written feedback (Callingham, 2008; Hargreaves, 2013). Verbal feedback was particularly important in my PTE1 placement as many of the children in my class cannot read yet. I tried to ensure that my feedback was positive and encouraging as well as prescriptive and useful to that child. As seen in Annotation 2b, feedback on number formation in each task was given immediately after completing their work, and with time to correct their mistakes. Verbal feedback was given and extra learning time if required. This is consistent with the literature published on feedback, and I personally believe I used this aspect of AfL successfully.

William (2011b) suggests that effective use of AfL strategies can increase the learning rate of a pupil by 100% - essentially adding an extra eight months of learning per school year. William (2011a; 2011b) also describes the use of AfL strategies *'relatively straightforward'*. As such an effective and easy pedagogical strategy, it is clear to see why it is a consideration in Donaldson's *Successful Futures* (2015). One of my targets going into the next block of placement is to develop more in-depth questioning strategies, and after research into AfL, I am keen to implement this in my year 4 class.

Good teaching and learning regularly reinforces cross-curriculum responsibilities, including literacy, numeracy and digital competence, and provides opportunities to practice them.

Barnes (2012) describes cross-curricular as: *"When the skills, knowledge and attitudes of a number of different disciplines are applied to a single experience, theme or idea"*. The concept of using cross-curricular is not a recent development, it originated in 1902 (Dewey), however, there is a current focus in the Draft Curriculum for Wales 2022. The use of cross-curricular teaching can have many benefits for the learner, including an authentic, holistic view of a particular topic or scheme of work. The use of cross-curricular teaching and learning can prompt pupils to use multiple skills and methods to solve problems and achieve objectives (Hayes, 2010). Cross-curricular learning can strengthen the neural connections between the left and right hemispheres of the brain which can in turn enhance an individual's problem-solving skills and creative thinking (Barnes, 2015; Bear et al., 2015). The enhancement in problem-solving skills can increase the level of self-efficacy in a learner as

well as the level of achievement felt at the successful completion of a task (Barnes, 2015; Schunk, 1989). Barnes (2015) suggests that the use of cross-curricular learning can reduce self-depreciative thoughts and behaviours in relation to an individual subject. Although cross-curricular teaching is generally viewed as a positive, it can have some negative impacts on pupils if used incorrectly. Some pupils may be at a disadvantage if they have an inadequate level of prior learning of the particular cross-curricular aim to benefit from the lesson (Westwood, 2006). Another disadvantage that can arise from the incorrect use of cross-curriculum teaching is that the aim of the subject being taught can be lost, for example, the use of a digital medium becoming either the focus or a distraction rather than a positive aspect of the lesson (Greenwood, 2013).

Education in Wales uses two frameworks for cross-curriculum responsibility, the literacy and numeracy framework (LNF) and the digital competency framework (DCF). These key subject areas must be embedded into all subjects taught. This in itself can reinforce cross-curricular teaching, if used correctly. There is a feeling of these frameworks being forced into lessons, rather than the use of natural and authentic embedding into the learning (Donaldson, 2015). Cross-curricular, by definition, encompasses all areas of learning and experience (AoLE) and all subjects, however, for the purpose of this assignment, the aspects of cross-curriculum will focus on the LNF and the DCF.

The planning proforma used in Yr Athrofa includes a section to plan in for both the LNF and DCF within lessons. I tried to implement both these frameworks where appropriate. The DCF was easy to implement aspects of within the foundation phase due to the nature of enhanced and continuous provision. However, it was not easy to use a range of DCF skills, rather the same skill in different formats. The LNF was more difficult for me to implement, and had to be carefully considered, as to put it into my lesson plan authentically. One successful example is Annotation 1b, whereby children were using oracy and comprehension skills to complete a mathematics lesson. The children enjoyed using a story to follow to create a context for the mathematics. They were engaged with the lesson and the class teacher observing gave positive feedback about the plan, and the implementation of the LNF. Another example (Annotation 1c), shows the reverse, using mathematics skills to complete an enhanced activity in a phonics (language skills) lesson. Within the LNF, it states that children should be using mathematics skills in play and other work activities (Welsh Government, 2008). The child, whose work is shown in the annotation, wanted to use a repeating pattern without prompts. This highlights the success at the school, and my patterns lesson, that the children are actively thinking about the ways in which they can implement their mathematical knowledge.

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

Donaldson (2015) highlights the importance of progression within the 'Successful Futures' review. The review goes on to emphasise the need of teachers to *set tasks and select resources that build on previous knowledge and experience and engage interest* (Donaldson, 2015). Pupils entering the education system do so with a wide range of knowledge, experiences, interests and aspirations therefore the learning must be individualised for each pupil. The progression steps within the draft curriculum for Wales 2022, in theory, allow for teachers to cater for their pupils' individual needs to allow for the expansion of previous knowledge (Welsh Government, 2019).

For a teacher to successfully plan and deliver lessons which are both engaging and build on prior knowledge, the teacher must gain an understanding of how their pupils learn (Bransford et al., 2006). This particular principle (Donaldson, 2015) can be seen to have some parallels with the constructivist theory of learning. The constructivist theory suggests that the interaction between experiences, the environment and cognition contribute to the formation of knowledge and meaning (Bodner, 1986; Macblain and Gray, 2015). Constructivism theorises that all information is built upon prior knowledge and the human brain is incapable of creating cognitive thought without such previous knowledge (Alexander and Winne, 2006; Bear et al., 2015). Babies are born with innate knowledge which forms the foundation to all cognitive thought, processes and knowledge (Schraw, 2006). This further

highlights the importance of creating learning experiences which build upon the individuals' previous experiences (Macblain, 2014).

The theory of constructivism was first debated in the nineteenth and twentieth century significant research conducted into the theory of learning by Jean Piaget (1954). He theorised that an individual will compartmentalise all known knowledge into *schemas* of similar origins. Piaget's theory of learning outlines two factors of equal importance which in combination construct an individual's knowledge: *assimilation* and *accommodation*. Assimilation occurs when new knowledge conforms with an existing schema and therefore is acquired by that particular schema. Accommodation occurs when new knowledge conflicts with an existing schema or when new knowledge cannot be assimilated. Accommodation is the requirement for a new schema to be created – learning (Piaget, 1954).

More current research into psychological theories of learning are based upon neuroscience. This research corresponds with the clinical psychology theories of constructivism. The learning process begins when new knowledge enters the short-term memory (STM). From the STM, the hippocampus processes this new knowledge and if deemed of value to the individual will be passed into the cortex – the long-term memory (LTM) (Bear et al., 2015). There are various factors involved in the determination of the value of knowledge. One of these factors is the emotional significance of the knowledge to that particular individual- the higher the significance, the stronger the memory (Schraw, 2006). This highlights the importance of the teacher to select tasks of which their learners enjoy, to enhance the emotive significance of memory. Another determinant of LTM is active engagement. This is whereby the individual is physically involved in their learning. This usually takes the form of cognitive involvement through problem-solving, but can take the form of creation of learning materials. Active engagement will use more neurons in the brain therefore creating a more potent memory of knowledge, committing information to LTM for longer. This is a significant contributor to assimilation, accommodation and information retention (Piaget, 1954; Bear et al., 2015).

Studies show that there is a positive correlation between interest and prior knowledge (Tobias, 1994). Tasks which are using both authentic context and prior knowledge can engage interest in a learner. This theory has been evidenced in (Annotation 3a) whereby the activity set is using the authentic context of people getting on and off of a bus in a numeracy lesson about 'one less'. All children within the class have prior knowledge of the mathematical concept and of the function of busses. The combination of the two areas of prior knowledge appeared to have a positive impact on the class. One particular pupil decided to create her own version of the bus for subtraction in a later lesson. This is evidence of the knowledge gained in the lesson was committed to LTM and able to be accessed at a later date.

When beginning a new topic or concept, it is vital to gauge the level of prior knowledge of the pupils (Hewson and Hewson, 2003). At the start of my PTE1 placement, this was not something that came naturally to me, I was keen to begin the teaching and make it through the content. I soon realised that without a gauge of the level of knowledge and understanding of the pupils, my questions were not as effective as they could be. I found that it was easy to implement AfL strategies to find out where my pupils were at and improve the quality of my teaching. Using TLAC strategies (Lemov, 2010), in line with the school, such as *show me* and *thumbs up/down*, was particularly useful in gauging the level of previous knowledge.

In conclusion, I feel I have made some strong progress on the implementation and understanding of this particular principle, especially in relation to prior knowledge. I believe that the rationale for selecting many of my learning tasks is based upon the constructivist theory of learning.

Reflection of the focus principles:

Upon reflection on the implementation of the three principles in focus, I can see where my strengths and weaknesses lie. My reflections are consistent with feedback from both my senior mentor and my class teacher. I was anxious about completing my placement in

reception, as I have had no previous experience of the foundation phase. However, I believe that I have found techniques and methods which put Donaldson's (2015) principles in place. This assignment has given me more confidence by bringing together the evidence of my use of the principles in the classroom. I can now see where I need to go, particularly with AfL and developing in-depth questions, in my next PTE block. An important aspect of pedagogy is the ongoing learning process for the teacher (Timperley et al., 2008), and although I feel I have made strong progress on the implementation of Donaldson's (2015) principles in my planning and teaching, there is always further progress to be made.

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