

Overview

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Leading the Learning: what, how and why am I teaching?

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https://uowtsd-my.sharepoint.com/:o:/g/personal/1901791_student_uwtsd_ac_uk/EpxMVHzQYPdOsEu_9Vv3GeUBEDL0S_8QQAdCAKppmCXnXg?e=5OPvqg

Cross Curricular Responsibilities

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Illustrative Example 1

Student-teacher	Abigail McFarlane	Class:	Year 4
AoLE or Subject	Topic - Geography	Date:	05/11/2019
Lesson Focus:	The Climate of the Rainforest		
Meaningful links to Curriculum	1. identify similarities and differences to describe, compare and contrast places and environments.		
Meaningful links to: Cross Curricular Responsibilities	Literacy – select and use information and ideas from texts. Numeracy – extract and interpret information from charts, timetables, diagrams and graphs.		
Personal Targets (Linked to QTS and identified in weekly review)			

This is a section taken from my first Geography lesson plan, taught through the term's topic of the rainforest. The task asked the year 4 class to compare the rainfall and temperature of Swansea to that of the rainforest and answer questions based on graphs. When planning the lesson I referred to the Literacy & Numeracy framework to ensure this was embedded within the activities set. I created graphs and tables for the pupils to use to answer questions in the main task and had an extension activity when asked pupils to select and use information and ideas from texts. Therefore, throughout the lesson, pupils were able to develop Literacy and Numeracy skills. Pupils were able to engage in the tasks and utilise and develop a range of skills to progress and accurately complete the lesson. However, by including Literacy & Numeracy proved potentially too challenging for some pupils, and so could have been more effective if focusing on one rather than multiple.

Illustrative Example 2

Student-teacher	Abigail McFarlane	Class:	Year 4
AoLE or Subject	Topic - Geography	Date:	26/11/2019
Lesson Focus:	The Climate of the Rainforest		
Meaningful links to Curriculum	1. Identify the causes and consequences of how places change.		
Meaningful links to: Cross Curricular Responsibilities	Literacy – select and use information and ideas from texts. Literacy – help a group to reach agreement, <i>e.g. considering reasons or consequences, keeping focus on the topic.</i>		
Personal Targets (Linked to QTS and identified in weekly review)			

This section of planning has been taken from the second Geography lesson I taught, with a whole class approach, through the class topic of the rainforest. The task asked pupils to sequence the stages of the water cycle and consider the consequences of deforestation for the water cycle and its impact on the rainforest. Therefore, pupils continued to develop their Literacy skills from the previous lesson. I chose to provide opportunity for pupils to progress in developing their skills in selecting and using information and ideas from texts to increase in their ability and confidence in doing so. To expand further I incorporated a second Literacy skill so there was a focus on Literacy development as well as building Geography knowledge within the lesson. This supported pupils in their Literacy development and pupils engaged well with the activity. It provided opportunity for class discussion, for pupils to contribute ideas, reasons and consequences in relation to a topic, to formulate answers before working on the individual tasks. However, not every pupil was able to

contribute to the conversation due to time constraints. Therefore, some could have needed further support in considering the consequences and developing their confidence in helping a group to reach agreement.

Illustrative Example 3

Student-teacher	Abigail McFarlane	Class:	Year 4
AoLE or Subject	Art & Design	Date:	02/12/2019 03/12/2019 04/12/2019
Lesson Focus:	Investigating Materials - Collage		
Meaningful links to Curriculum	Investigate the natural environment through using a variety of materials.		
Meaningful links to: Cross Curricular Responsibilities	Literacy – Speaking: talk about things they have made or done, explaining the process.		
Personal Targets (Linked to QTS and identified in weekly review)			

This section of planning has been taken from my Art & Design lesson plan, taught to groups through the rainforest topic. As the pupils were creating collages and working practically, I chose to incorporate a Literacy Speaking skill from the Literacy & Numeracy framework as this seemed most appropriate for the task. The skill could be developed simultaneously while pupils worked, so I could continue to ask pupils what they were doing at why throughout the activity. As this was possible and the activity was conducted in groups, I could ensure I asked all pupils. Therefore, it enabled pupils to consider their work and explain what they were producing, deepening their knowledge and understanding of the process. This could have been recorded using an iPad for pupils to develop digital competence and have their responses to refer to in the future.

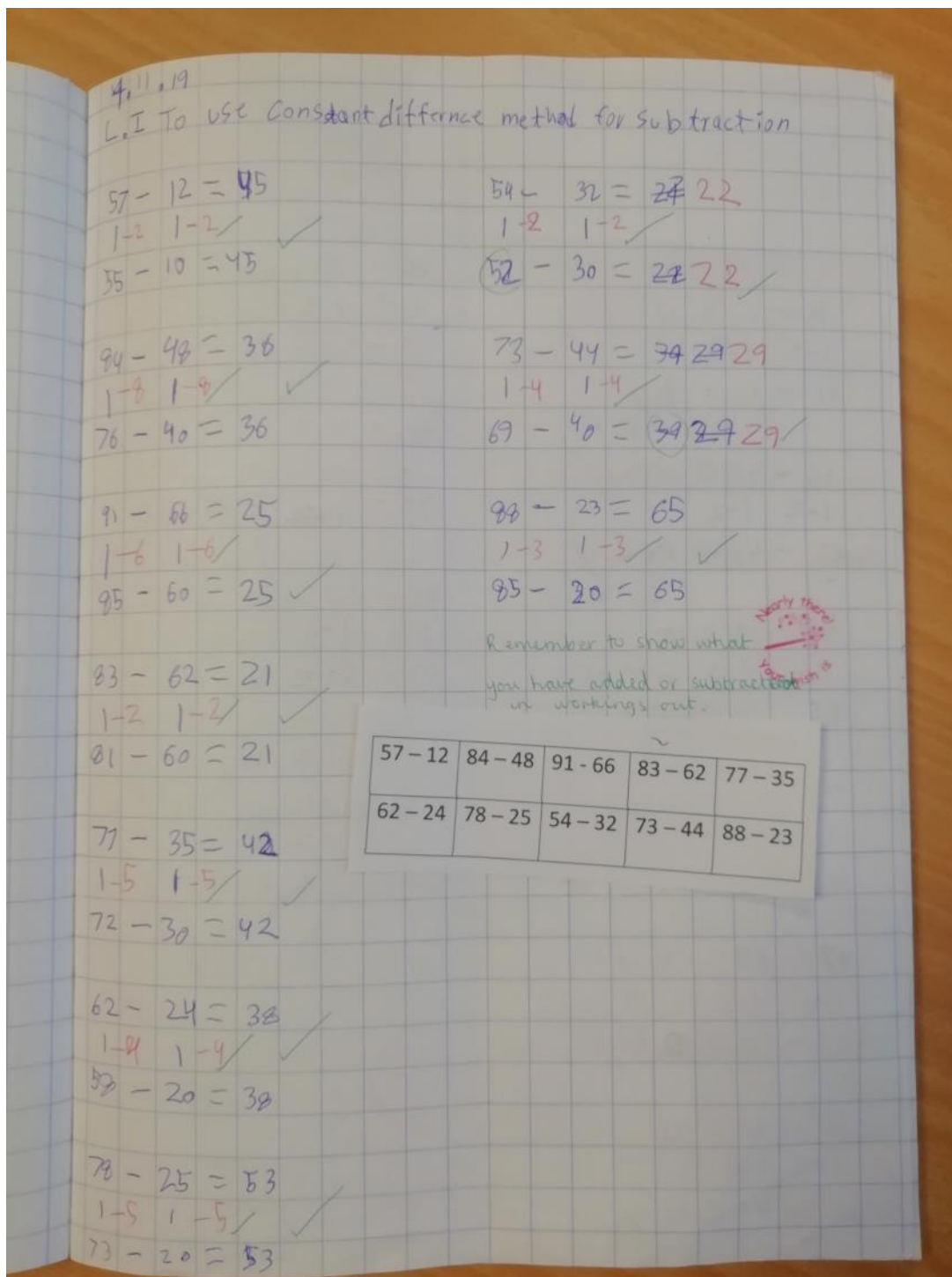
Assessment for Learning

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10 minutes Plenary	Teacher to ask the following so a summary of learning is provided by the pupils: • Who is more confident now than at the start of the lesson? • Who couldn't do it at the start but can at the end? • What is the constant difference method? • Is it easier to calculate mentally using the constant difference method and why?	Pupils to use thumbs up thumbs down to indicate confidence. Pupils to answer as individuals by raising hands. Pupils to think, pair, share. Pupils to think, pair, share and give reasoning.	H&S: Ensure the learning environment is tidy and any hazards are removed.
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Illustrative Example 4

This plenary is taken from the first Maths & Numeracy lesson plan to assess pupil understanding at the end of the lesson. The lesson was with a year 4 class, and the plenary was conducted with the whole class. Thumbs up thumbs down was selected to assess pupil confidence and understanding at the end of the lesson as this allowed me to quickly gain an overview of how pupils felt about their own knowledge and understanding. It also highlighted those who were still unsure, giving the opportunity for instant feedback on queries. Therefore, I could address simple issues within the lesson to give instant pupil feedback whilst still relevant, as well as pinpointing any areas that would need to be incorporated into future lessons to improve understanding and support progression in learning. I chose to use a selection of thumbs up thumbs down, pupils answering as individuals and think, pair, share to utilise a variety of discussion techniques. This allowed pupils to work together in answering questions, providing support for those less confident. By using thumbs up thumbs down as a signal as well as pupils giving verbal feedback meant everyone could contribute to the plenary. The plenary proved successful in gaining a general overview of the pupil's understanding. However, it did not provide opportunity for more in depth feedback which could have given me a more detailed understanding of individual pupil's ability and level of knowledge and understanding attained from the lesson.



Illustrative Example 5

This piece of work was taken from the first Maths & Numeracy lesson with the year 4 class, learning the constant difference method. By marking during the lesson and providing instant pupil feedback, pupils were able to correct their work during the lesson while it was still relevant and I was able to support them. This developed knowledge and understanding and allowed pupils to progress continuously in their learning. However, marking during the lesson meant it was challenging to give an equal amount of support to each learner.

Reflective Analysis of Teaching and Strategies For Development – including justification/rationale for pedagogical choices	
Evidence of my Effective Practice	Demonstrating the method on the white board first and then asking the children to solve additional problems collectively as a class proved effective in helping them understand how to complete the task. Offering their individual suggestions as well as using think, pair, share meant I could provide instant feedback on answers and make the method clear before confusion arose. This was helped by giving children longer thinking time when they wanted to attempt solving a problem, so any time pressure was removed and they could engage in the task. Using mini plenaries during the lesson when engagement and concentration dipped meant everyone's attention was refocused and any confusion was addressed. By marking work throughout the lesson I could check understanding and provide instant feedback so learning could progress continuously. This will help me to build positive relationships with learners and evaluate how to meet their individual needs to maximise learning potential.

Illustrative Example 6

This lesson reflection was from the first Maths & Numeracy lesson with the year 4 class. I reflected on my use of mini-plenaries as a form of assessment. As this was a new topic, pupils initially struggled to grasp the concept and frequently asked for additional support. Therefore, I chose to include mini-plenaries to continuously assess pupils' understanding throughout the lesson. This allowed me to identify areas of confusion and I was able to provide further clarification and support until the pupils' confidence and understanding increased by the end of the lesson. However, by continuously using mini-plenaries, it could be suggested this disrupted the flow of the lesson and for those who did understand could have hindered their ability to complete the work by stopping and starting when it was unnecessary.

Sets Tasks and Selects Resources

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

Illustrative Example 7

1 hour 40 minutes Teaching & Core Learning	Teacher to introduce task. The task asks pairs to match cards that have a sum, workings out and the answer to solve the calculation.	Pupils to match cards with sums, workings out and answers to solve calculations in pairs.	Cards.
	Teacher to monitor pairs and provide instant feedback and support.	Pupils to respond to any feedback given.	
	Teacher to introduce individual task. The task asks pupils to solve problems using the expanded column method.	Pupils to solve problems using the expanded column method. Lower ability: subtracting one digit numbers from one digit numbers. Middle ability: subtracting two digit numbers from two digit numbers. Higher ability: subtracting three digit numbers from three digit numbers.	Worksheets. Books.
	Extend: Teacher to ask pupils to move onto subtracting three digit numbers from three digit numbers using the expanded column method.	Extension: Pupils to subtract four digit numbers from four digit numbers using the expanded column method.	Worksheets. Books.

This activity was taken from the third Maths & Numeracy subtraction lesson with the year four class. The lesson was taught through a whole class teaching approach. To start the lesson, I activated the pupils' prior knowledge by running through the previous two subtraction strategies I had taught the class. Pupils engaged in class discussion and demonstrated how to solve problems on the whiteboard, explaining the process and demonstrating knowledge and understanding. After activating their prior knowledge and ensuring pupils could explain and give reasons for their work and the previous strategy, I continued to the third strategy using the expanded column method. I chose this strategy as the third one in the set of lessons as it built on previous knowledge of partitioning numbers and place value so felt logical to continue in this direction. I continued to use a card activity for pupils to initially explore the strategy as it was fed back that they enjoyed doing these to build confidence and understanding before beginning the differentiated tasks. This kept pupils engaged in the lesson and allowed them to progress in the learning, acquiring knowledge of multiple subtraction strategies to support them in their Maths & Numeracy. To further develop the lesson, more paired or group tasks could have been incorporated to engage interest in the pupils as they enjoyed this way of working whilst also developing and progressing in their knowledge and understanding.

Illustrative Example 8

Opening phase (with links to prior learning)	APK: Teacher to recap <i>How to Wash a Woolly Mammoth</i> with pupils. Teacher to ask pupils to identify the key features of instructional writing. Teacher to outline learning objectives and lesson focus.	Pupils to think, pair, share the key features of the story <i>How to Wash a Woolly Mammoth</i> and feedback their ideas to the class. Pupils to independently feedback to the class the key features of instructional writing.	<i>How to Wash a Woolly Mammoth</i> book. H&S: Ensure learning environment is hazzard free.
Teaching & Core Learning	Teacher to outline independent task. Task asks pupils to use their previous work completed on instructional writing to draft their own piece of instructional writing inspired by <i>How to Wash a Woolly Mammoth</i>.	Pupils to use work completed on instructional writing from the previous three lessons to draft their own piece of instructional writing inspired by <i>How to Wash a Woolly Mammoth</i>. Lower ability: use a template to create a piece of instructional writing about how to wash a woolly mammoth. Middle ability: use their previous work to create a piece of instructional writing about how to wash a woolly mammoth.	Literacy Books.

This is a section from the fourth lesson plan in a set of five Literacy lessons, building knowledge on instructional writing. This was with a Year 4 class and took a whole class teaching approach. To start the first lesson, I read the book 'How to Wash a Woolly Mammoth' which prompted a whole class discussion about the features of instructional writing. The first three lessons involved: identifying the features of instructional writing, establishing the importance of order and structure in instructional writing and identifying imperative verbs and prepositions. Therefore, I planned lesson four as a point where pupils collated all this knowledge to draft their own piece of instructional writing. I recapped the story at the beginning of every lesson and used questioning to activate prior knowledge so each day built on the previous activities. Looking at another example for the first three lessons provided pupils with the necessary information to refer back to when creating their own piece of instructional writing. Not only did I use the story at the beginning of each lesson to recap and activate prior knowledge, but used it to engage and interest the pupils. This is because pupils' feedback after the first lesson that they enjoyed the story and it was evident that this was increasing their interest in engaging with the topic. They remained enthusiastic when discussion the features of instructional writing and generating their own ideas as they were able to remember the story.

Illustrative Example 9

Teaching & Core Learning	Teacher to talk pupils through PowerPoint, discussing Henri Rousseau work and collage. Teacher to explain how elements of Henri Rousseau's work can be used to inspire collages of the rainforest.	Pupils to engage in discussion about images, considering terminology.	PowerPoint Slides.
	Teacher to discuss terminology with pupils to get them to consider these when working. Teacher to outline group task. Task asks pupils to create a collage of a rainforest using various materials, inspired by the childlike style of Henri Rousseau. Teacher asks pupils to consider the layers of the rainforest when working, working towards labelling the collage and writing about each layer.	Pupils to give examples related to terminology. Pupils to work together to create a collage of a rainforest, experimenting with different materials. Pupils to consider the layers of the rainforest when working, working towards labelling the collage and writing about each layer.	PowerPoint Slides. A3 Coloured Card. A4 Coloured Card. A4 Holographic Card. Tissue Paper. Feathers. Coloured Pens.

This section of a lesson plan is taken from the Art & Design lesson, taught to the year 4 class. They worked in groups for the activity. Each group contributed to a collage of the rainforest after looking at examples of other work and considering specific terminology. The lesson was designed after discussing with pupils if they would enjoy a making activity, and so planning was informed by pupil voice to ensure it engaged interest. As it was taught through the topic of the rainforest, I was able to activate pupils' prior knowledge. They were able to use previously gained knowledge and experience when generating ideas and working on the task. Collage was selected as it allowed all pupils to contribute to the work and explore various materials whilst still considering the topic and drawing on previous knowledge. Therefore, all pupils were able to develop their knowledge and skills. Each collage was completed, suggesting the pupils remained engaged and interested for the duration of the activity. Due to the nature of the activity I was able to use pupil voice throughout to ensure everyone was able to contribute and enjoy the work in some way. Therefore, by the end of each group, pupils were able to discuss and explain the process used, as well as linking it to the topic.

As they had previously learnt about the layers of the rainforest, each collage included the layers of the rainforest. Pupils identified and labelled the layers, as well as some writing about each layer for the purposes of the display. This meant they were able to bring in learning across various areas of learning experience to support them in the task. However, as some took a more dominant role in the activity, this could have impacted the confidence or contribution of some pupils despite my efforts to ensure everyone was included in the work. Therefore, opportunity could have been provided for pupils to explore the materials and create collage independently, as well as bringing in their own previous knowledge and understanding to develop their personal skills and knowledge.

Critical Reflection

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Professional Teaching Experience (PTE) was undertaken in a Key Stage 2 class in a Swansea primary school within a deprived catchment area. Lessons have been conducted primarily through whole class teaching, with tasks differentiated to suit pupils' individual needs.

The writing will focus on the pedagogical principles: Good teaching and learning means employing assessment for learning principles; Good teaching and learning regularly reinforces Cross-Curriculum Responsibilities, including literacy, numeracy and digital competence, and provides opportunities to practice them; Good teaching and learning sets tasks and selects resources that build on previous knowledge and experience and engage interest. A literature review will focus on effective teaching and learning, considering the implementation and impact of these principles, then informing reflection on personal implementation during PTE. This will consider the strengths and weaknesses and provide recommendations for further development. Illustrative examples will be used to support reflections to provide authentic evidence of implementation.

Effective teaching is perceived as teaching which generates improved pupil outcomes that are purposeful to their future. Components of effective teaching include: pedagogical content knowledge, instruction quality, classroom climate and management, teacher beliefs and professional behaviours. Evidence demonstrates that pupil voice, considering long and short term goals and building on prior knowledge and experience are contributing factors to effective pedagogy. Research indicates these elements impact pupil outcomes and require the continuous formative assessment of teachers to enable effective learning, as well as embedding assessment for learning to meet pupils' diverse needs. This is because professional learning opportunities which promote teacher development are suggested to foster better learning for the teacher and pupils, raising learning outcomes (Coe et al., 2014; Husbands and Pearce, 2012). These components correlate with the pedagogical principles proposed by Donaldson (2015). He states these link to the suggested curriculum and assessment arrangement, proposed to raise teaching and learning standards. Therefore, it can be anticipated that implementing the pedagogical principles has potential to raise teaching and learning standards as they incorporate the components of effective teaching.

A cross-curricular approach to teaching and learning can be defined as an integrated curriculum where subjects are connected and interwoven. Teaching commonly occurs through a thematic approach (Hayes, 2010, p.382-383). Constructivism states that learning takes place with connections between prior knowledge, new knowledge and the experience in acquisition (McLeod, 2019; McPhail, 2016, p.294-313). Active learning lends itself to thematic teaching in a cross-curricular approach where pupils develop understanding through experiences, utilising previous knowledge to support progression in personal learning (Rowley and Cooper, 2009, p.2; McLeod, 2019). This promotes cross-curricular teaching, proposing pupils will learn "by direct experience – often jointly with other pupils – rather than being told" (Hayes, 2010, p.382). This suggests pupils benefit from an active over passive approach in their learning, which should be reflected in opportunities presented by teachers and the curriculum.

Curriculum for Wales 2022 identifies the cross-curricular responsibilities of literacy, numeracy and digital competence as vital skills for learners to access across the curriculum as they are "important to thinking, learning and life" (Gov.Wales, 2015, p.6), developing pupils as confident contributors to society. This is particularly prevalent with the addition of digital competence, reflecting the growing technological world and preparing pupils to be "future members of a technologically competent workforce". Donaldson (2015) states "literacy and numeracy are universally acknowledged to be the essential foundations of education". Therefore, they remain a central focus of the curriculum, ensuring learners develop these fundamental skills to meet needs of the twenty-first century.

The National Literacy and Numeracy Framework (LNF) and the Digital Competence Framework (DCF) are available to inform planning so teachers provide opportunities for pupils to develop outlined skills. These are to be woven across the curriculum, planned and implemented by schools with flexibility so individual learner needs are met. Within each framework skills are indicated along

progression steps to reflect the revised continuum of learning, supporting pupils' individual needs and personal learning journeys as this is evidenced to facilitate effective teaching and learning (Hwb, 2019a; Hwb, 2019b; Husbands and Pearce, 2012).

However, interpretation can lack commonality when implementing a cross-curricular approach, raising concern over how efficiently subjects are integrated with some subjects promoting natural links over others (Rowley and Cooper, 2009, p.2; Laurie, 2011, p.126-128). Variation may occur in how cross-curricular responsibilities are integrated, producing differing opportunities (Hayes, 2010, p.384; Laurie, 2011, p.128). This poses the risk of less effective development in literacy, numeracy and digital competence in pupils depending on teacher interpretation. Implications may arise in planning and implementation as pupils still require equal opportunities provided by teachers to develop the same key knowledge and skills outlined in the LNF and DCF. It is argued that an increase in pupil voice, common in thematic planning, means pupils are not tackling areas they find challenging so lacking in developing vital skills (Hayes, 2010, p.384-385).

Assessment for Learning (AfL) is a means of formative assessment which focuses on pupils' learning, paramount to effective pedagogy (Husbands and Pearce, 2012). Information is acquired about pupils' current learning to inform teachers of pupils' next steps and how to support their progression (Black et al. 2003, p.2; Education Services Australia, 2019; Wallace, 2014). Evaluating learning and teaching provides information on these can best be adapted to meet individual learning needs (Black et al., 2003, p.2; Black and Wiliam, 2010).

AfL includes questioning, teacher feedback and peer and self-assessment (Welsh Assembly Government, 2010; Education Services Australia, 2019). Formative assessment provides pupils continuous constructive feedback on how to progress in their learning. Pupils taking an active role provides control over their learning. Valuing understanding and progression rather than getting things correct promotes risk-taking, as it evaluates how learning has happened and what can be done next. Including teachers and pupils in the assessment process means feedback can inform planning, making lessons more relevant to the individual needs of pupils (Assessment Reform Group, 2002; Wallace, 2014). Success criteria should be clearly communicated so pupils understand the learning goals and whether they have met them, with clear guidance on how to peer and self-assess. Formative assessment develops pupils' thinking and reflection skills, learning to identify strengths and weaknesses (Assessment Reform Group, 2002; Welsh Assembly Government, 2010). Recognising success and identifying areas of improvement is suggested to raise pupils' self-esteem and motivation, leading pupils to strive for self-improvement and development with the focus being removed from making mistakes, as well as increased enjoyment in their work (Black et al., 2003, p.3; Wallace, 2014).

The Welsh Government acknowledges weakness in current assessment in teachers' understanding and implementation and should be addressed to raise teaching and learning standards, particularly through high-quality, purposeful feedback gathered from formative assessment. Feedback can shape future effective teaching and learning by considering where pupils are in relation to the progression steps and how to enable continuous learning and development. It is recommended that assessment is purposeful and engages pupils in their own assessment, using various strategies to appropriately assess a range of skills and knowledge across the curriculum (Donaldson, 2015; Husbands and Pearce, 2012).

Pupil assessment and teacher adaptation to facilitate optimum pupil learning carries the potential to raise learning standards on an individual and national basis (Donaldson, 2015). This is arguably the responsibility of teachers as their influence within the learning environment holds the potential to inspire change. They are to tackle challenges and adapt accordingly, providing opportunities which support pupils' learning. This poses the risk of becoming counter-productive, as changes could worsen classroom challenges faced. Some suggest responsibility should be shared out and supported by others, so a collaborative effort achieves this raise in learning standards (Black and Wiliam, 2010).

It is recommended that teachers "set tasks and select resources that build on previous knowledge and experience and engage interest" (Donaldson, 2015). This strives to enable progression by providing pupils the opportunity to utilise previous knowledge to advance in their learning, leading to effective teaching and learning (Husbands and Pearce, 2012). However, pupils will have varying

approaches and interests, meaning a uniform approach to teaching learning will not meet individual needs. This implies learning should be relevant and appropriate for the developmental stage of the child, creating engaging tasks which are suitably challenging to support continuous progression in learning (Donaldson, 2015; MacBlain, 2014, p.43). Therefore, teachers will need to evaluate pupils' individual interests and abilities whilst remaining cautious in identifying needs and wants to avoid superficially categorising pupils (Donaldson, 2015).

The Progression Steps throughout the LNF and DCF provide guidance on progressive learning and how tasks and resources can build on previous knowledge and experience, with freedom to meet varying needs within the learning environment (Donaldson, 2015). Bloom's Taxonomy could support these frameworks in evaluating knowledge and understanding. This method considers the pupil's knowledge, comprehension, application, analysis, synthesis and evaluation skills to assess their learning in a hierarchical design, therefore requiring prior knowledge and skills lower down to allow learning at the higher levels of analysis, synthesis and evaluation. Whilst this provides a framework for assessment of progression and understanding, the descriptors remain vague and open to interpretation (Cullinane, 2009, p.1-2; Pearson, 2015, p.188). This could either provide freedom to suit individual needs of the pupils or could allow for discrepancies between teachers when applied.

Providing tasks which support continuous progression in learning while engaging interest can be facilitated through pupil evaluation of understanding and individual interests to inform planning. MacBlain (2014, p.39-40) suggests understanding is developed by children interacting with their environment. Cognitive constructivism proposes learning occurs once personal understanding and experience connected to the child's environment takes place. This supports the importance of pupils taking an active role in their learning, possible through effective teaching using pupil voice, to develop confidence and motivation towards learning and improvement (Estyn, 2019a). Pupil voice can give ownership over learning experiences, engaging interest and improving learning outcomes by meeting individual wants and needs (Estyn, 2019b; Logan and Walker, 2008). It is theorised that incorporating areas of pupil interest into learning is valuable as it can prevent disengagement from learning (Logan and Walker, 2008). However, using pupil voice to inform planning is proposed to "be seen less as a source of concrete suggestions that might be acted upon directly and more as a source of challenge to teacher ideas from the perspective of the learner" (Warwick, 2018). This is to ensure lessons provide opportunities based on pedagogical content knowledge whilst informed by pupil voice.

Throughout PTE the cross-curricular responsibilities were a crucial focus in planning (see Illustrative Examples 1-3), teaching and learning and facilitated continuous progression through implementation across all lessons. Evaluating my implementation informed my considerations in meeting pupils' needs, important for effective pedagogy (Husbands and Pearce, 2012). The LNF informed planning as I selected skills appropriate to each lesson and the pupil to prepare them for life as contributors to the modern workforce (Donaldson, 2015).

When planning Mathematics and Numeracy I incorporated at least one literacy skill within the lesson, alternating reading, writing, oracy and listening to develop rounded pupil skillsets. It appeared more straightforward to incorporate literacy into Maths and Numeracy lessons due to the topics covered. This supports the view that certain subjects foster more natural links for cross-curricular teaching, therefore vital to ensure links made remain purposeful to promote meaningful learning (Rowley and Cooper, 2009, p.2; Laurie, 2011, p.126-128). I aim to embed multiple skills from the LNF to facilitate pupils' development, as my efficiency in interpretation and implementation will dictate whether adequate opportunities have been provided to generate competence in pupils (Hayes, 2010, p.384; Laurie, 2011, p.128).

Progressing in my PTE, I taught through the class topic of the rainforest (see Illustrative Examples 1-3). Thematic teaching appeared effective as it supported constructivism, where the pupils learnt through collaborative experience (Hayes, 2010, p.382). The LNF informed planning, incorporating the cross-curricular responsibilities throughout the curriculum. In planning practical lessons, I incorporated oracy skills. Supplying multiple opportunities for the pupils to develop oracy skills saw sustained pupil engagement in this process with increasing confidence.

However, I found it challenging to incorporate the DCF due to limited digital resources available in the learning environment. As digital competence is one of the three cross-curricular responsibilities I

was unable to access this area and positively impact pupils within relation to their digital competence skills. This will need to be addressed moving forward in PTE by weaving digital skills across the AoLEs so pupils engage with technology they may otherwise not have access to. The DCF will inform lessons which consider the constraints resources may pose, whilst allowing pupils the opportunity to explore technology in a variety of everyday contexts to reflect the rapidly advancing technological workforce pupils will contribute to in the future (Donaldson, 2015).

I utilised AfL strategies throughout PTE to assess pupil learning and understanding on where pupils were, where they needed to go next and the experiences required to reach next steps, as this is evidenced to facilitate effective teaching and learning (Husbands and Pearce, 2012). In using formative assessment, I continuously evaluated pupils' understanding and worked flexibly to meet individual needs and support pupils in meeting the success criteria (Black et al., 2003, p.2; Black and Wiliam, 2010).

The AfL strategy 'thumbs up, thumbs down' indicated pupil understanding throughout lessons. As suggested by the Welsh Assembly Government (2010), success criteria was communicated to pupils, highlighting how to meet them within the lesson. This provided a basis for questioning using 'thumbs up, thumbs down' and successfully guided pupils in self-assessment. This will continue throughout PTE to include pupils in their own learning and how they can reach the intended outcome of lessons. In the opening phase pupils indicated their understanding in approaching the task so initial misunderstandings could be addressed. During mini-plenaries (see Illustrative Example 6), pupils demonstrated understanding midway through the activity, indicating which pupils required additional support. During the plenary pupils used 'thumbs up, thumbs down' to reflect on understanding, providing a class overview which could inform following lessons (see Illustrative Example 4). Pupils were questioned to check they had accurately evaluated their understanding, and to address issues before progressing onwards. However, some pupils could be influenced by the decisions of their peers. Therefore, written or one-to-one feedback could be implemented to support pupils less confident in vocalising their ability in front of peers or those unable to accurately assess themselves. Interpretation also poses the risk of inaccuracy, and so I must remain cautious and thoughtful to avoid superficially categorising pupils whilst interpreting their individual wants and needs (Donaldson, 2015).

Planning and implementing mini-plenaries (see Illustrative Example 6) allowed me to evaluate pupil understanding during lessons and address misunderstanding whilst relevant. This additional support gave pupils the opportunity to progress during the lesson, facilitating continuous learning (Assessment Reform Group, 2002; Wallace, 2014). However, mini-plenaries could disrupt the flow of the lesson. Pupils could lose concentration and spend longer trying to come back to their work after the mini-plenary. Nevertheless, most pupils responded positively and fed back that mini-plenaries helped them complete tasks by clarifying areas of confusion. Therefore, considering timing was and remains important, predominantly conducted when multiple students asked for similar support or were losing focus in the task.

Marking during the lesson provided instant pupil feedback, highlighting successful areas and those which required corrections (see Illustrative Example 5). Pupils completed corrections during lessons, supporting continuous learning and progression. As pupils became familiar with this, many sought feedback and marking during lessons and became increasingly confident in their work. Completing corrections and improving accuracy appeared to positively impact pupils' understanding and attitudes towards individual learning and progression, as pupils strived for improvements and accuracy in lessons. This supports the view that focusing feedback on strengths and areas of improvement rather than mistakes increases motivation, enjoyment and self-esteem in pupils (Black et al., 2003, p.3; Wallace, 2014). However, this level of feedback was challenging to provide to every pupil due to time constraints and other responsibilities during teaching, risking unequal feedback. To address this issue, I will have the answers to the work with me during lessons to speed up the marking process so more time can be given to providing feedback. I will strive to provide pupils with instant verbal feedback as this is proposed to increase pupil motivation and understanding, raising learning standards (Black et al., 2003, p.3; Wallace, 2014).

When planning Mathematics and Numeracy lessons and Literacy lessons I created sets of five each to progress the learners through the topics (see Illustrative Examples 7 and 8). This meant I considered desired pupil outcomes and the required knowledge and experiences, engaging in

effective teaching and learning by contemplating long and short term goals (Husbands and Pearce, 2012). This informed planning to ensure lessons built on the previous, allowing pupils to utilise and develop prior knowledge. This supports constructivism which suggests learning occurs through connections between prior and new knowledge and how this is acquired (MacBlain, 2014, p.39-40; McLeod, 2019; McPhail, 2016, p.294-313). I evaluated pupils' enjoyment at the end of each task and implemented this into planning to sustain concentration and engagement (Estyn, 2019a). I created lessons which built on previous knowledge whilst including pupil voice to incorporate elements which were enjoyable and of interest to the learners, improving outcomes alongside confidence and motivation towards learning (Estyn, 2019b; Logan and Walker, 2008).

Through effective planning pupils developed in confidence and understanding progressing through the lessons, supported by pupil feedback. Mathematics and Numeracy lessons followed a schedule to maximise pupil confidence through routine and provided opportunities to utilise and build on prior knowledge to enable continuous learning (Rowley and Cooper, 2009, p.2; McLeod, 2019). Pair activities followed by differentiated individual tasks meant pupils could grasp an initial understanding of the topic with the support of a partner before completing work which met individual needs and appropriately challenged the pupils (Donaldson, 2015; MacBlain, 2014, p.43). Pupils could develop knowledge within single and over multiple lessons. This supports the view that pupils develop knowledge from doing, often benefitting from collaboration (Hayes, 2010, p.382). Moving forward, I will continue varying tasks to avoid monotonous repetition which may disengage pupils in the long term.

Through thematic teaching, I applied a cross-curricular approach to the Art and Design lesson (see Illustrative Example 9). The pupils utilised their knowledge of the layers of the rainforest to inform their collages, whilst developing new knowledge about the rainforest and the collage process. This appeared effective as constructivism allowed pupils to collaboratively activate prior knowledge to make connections with new knowledge through a practical experience (Rowley and Cooper, 2009, p.2; McLeod, 2019). Incorporating pupil voice into the lesson gave pupils ownership over their work, and they appeared engaged and motivated throughout the task, as well as interested in the activity after it had been completed (Estyn, 2019b; Logan and Walker, 2008). Therefore, I will continue to use pupil voice to inform planning, to promote engagement and motivation in pupils towards their learning. However, I will use this as an adaptable means to guide planning rather than concrete ideas which must be included, to ensure lessons provide learning opportunities which are necessary as well as enjoyable (Warwick, 2018).

To develop my implementation, the DCF will inform planning to meet the needs of the technologically advancing twenty-first century, preparing pupils for the future workforce (Donaldson, 2015). Pupils' individual needs will be met by continuing to implement AfL strategies, next focusing on providing instant verbal feedback to ensure all learners benefit equally, as research demonstrates continuous AfL is effective pedagogy which improves learning outcomes (Black et al., 2003, p.3; Husbands and Pearce, 2013). This feedback, alongside incorporating pupil voice, can give ownership to pupils over their learning by taking an active role, shown to generate motivation, sustain engagement and interest. I aim to strengthen pupils' learning by following a constructivist approach, setting tasks where pupils utilise prior knowledge to make connections with new knowledge through concrete experience (McPhail, 2016, p.294-313).

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