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“A critical analysis of the relationship between teacher subject knowledge and effective learning and teaching in the primary school”.

Word Count: 4009

Introduction

This essay will explore the link between effective teaching and learning in the primary school and teacher subject knowledge. Firstly, I will review literature on subject knowledge for primary school teaching before critically analysing and evaluating my own knowledge in relation to specific subjects. My evaluation will be based on my first Professional Teaching Experience within a primary school (PTE1); I will reflect on specific lessons that I taught and consider the implications of weak subject knowledge. I will also scrutinise knowledge frameworks that attempt to define and categorise teacher knowledge and as a measure of quality and effectiveness.

The school which hosted my placement is located in an affluent area in the Bridgend local authority and 5% of pupils are entitled to free school meals. Approximately 91% of pupils are white with British ethnic origin and it is estimated that around 4% of pupils who attend the school have additional learning needs (Beta, 2018). The school shall remain anonymous in this essay and no pupils will be named. I was placed in a Year 6 class with 28 students aged 10-11 years. The class did not have a teaching assistant solely assigned to them. However, there was a teaching assistant who covered both Year 6 classes who was sometimes present in class. For the purposes of this essay, I will refer to my class teacher as my mentor.

Literature Review

The debate around the various factors that lead to effective classroom teaching is one which is ongoing within education circles. Reports from Ofsted have acknowledged the demands that are placed on primary teachers in terms of needing to have a broad range of subject knowledge across the primary curriculum. During the autumnal term in 2007 and the spring term in 2008, as part of their subject survey programme, Ofsted (2009) observed 937 lessons across 12 subjects (excluding Maths and English) in 241 primary schools, giving overall

grades for the quality of teaching observed. From the sample of lessons observations, the overall quality of teaching was deemed as outstanding in 13%, good in 54%, satisfactory in 30% and inadequate in 4%. In the lessons where the quality of teaching was only deemed to be satisfactory and even in a few ‘good’ lessons, apparent weaknesses in teachers’ subject knowledge were identified, which Ofsted suggest impacted on pupil achievement. It must be noted that this report is now dated, however, the results appear to indicate that there is a direct correlation between teacher subject knowledge and pupil attainment. This report raises pertinent questions, around the capability of teachers to deliver effective lessons with limited or weak subject knowledge.

For more than 20 years, educators have questioned whether there is a prescribed knowledge basis unique to teaching that effective teachers adhere to or learn to adhere to through experience. Shulman (1987) in his seminal text from the 1980s, attempted to define and categorise this knowledge base, based on portrayals of perceived teaching expertise. They are summarised in the table below:

Figure 1: Shulman’s Major Categories of Teacher Knowledge

• General pedagogical knowledge, with special reference to those broad principles and strategies of classroom management and organization that appear to transcend subject matter
• Knowledge of learners and their characteristics
• Knowledge of educational contexts, ranging from workings of the group or classroom, the governance and financing of school districts, to the character of communities and cultures
• Knowledge of educational ends, purposes, and values, and their philosophical and historical grounds
• Content knowledge
• Curriculum knowledge, with particular grasp of the materials and programs that serve as “tools of the trade” for teachers
• Pedagogical content knowledge, that special amalgam of content and pedagogy that is uniquely the province of teachers, their own special form of professional understanding

(Shulman, 1987, p. 8; quoted in Ball et al, 2008, p. 391)

Figure 1(Schulman, 1987, pg.8 quoted in Ball et al, 2008, pg.391)

From the seven categories of teacher knowledge outlined above, three suggest the importance of subject knowledge; content knowledge, curriculum knowledge and pedagogical content knowledge. Pedagogical content knowledge (PCK), highlighted in green, is of particular interest to Schulman as it ‘identifies the distinctive bodies of knowledge for teaching’ (1987: pg.8). This is where the teacher seamlessly blends subject knowledge and pedagogy with an

understanding of how to scaffold learning to cater for the diverse needs and abilities of learners.

Coe *et al* (2014) highlight six common skills or qualities that are suggested by research when attempting to define a framework of ‘core elements’ that define effective teaching. PCK is the first component on the list, as Coe *et al* acknowledge that the most effective teachers possess excellent knowledge of the subjects which they teach. When this dips below a specific level, pupil learning is negatively impacted.

This is evidenced in Schulman’s own case study of trainee English teacher Colleen whose insufficient knowledge of prescriptive grammar resulted in a loss of confidence. This had a negative impact on Colleen’s effectiveness as she rushed through the lesson, offering pupils limited chance to ask questions and offer alternative ideas, in fear of them asking her a question that she could not answer. Schulman uses Colleen’s case to evidence his Model of Pedagogical Reasoning and Action, which was devised after studying trainee teachers over a three year period.

Schulman’s Model of Pedagogical Reasoning and Action

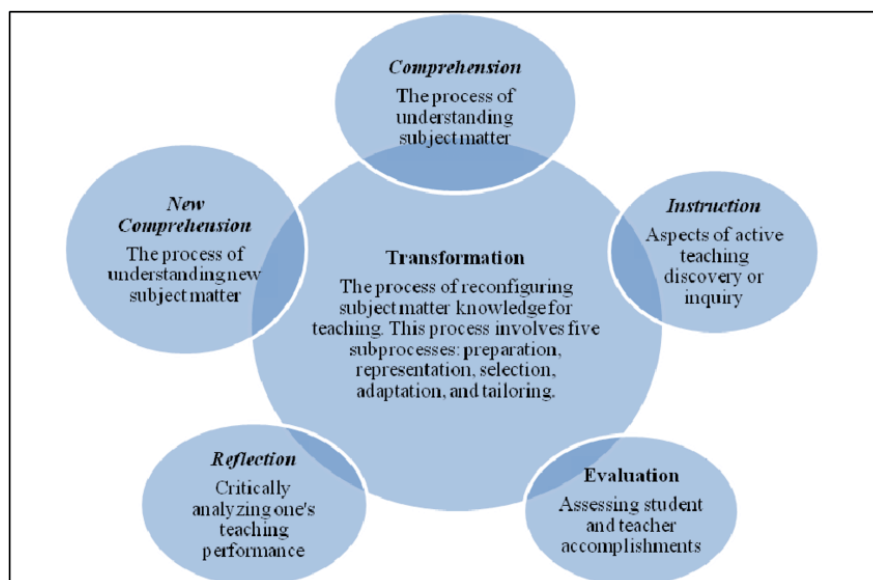


Figure 2 (Schulman’s Model of Pedagogical Reasoning and Action adapted from Wilson, S. Shulman, L. & Richert A (1987) 150 different ways of knowing: Representations of knowledge in teaching.

Schulman observed how the trainee teachers comprehended and adapted content knowledge in their own way to make it personable to them. In his 'blueprint' of teaching which he suggests is continuously evolving, Schulman emphasises teaching as a process of 'comprehension and reasoning, as transformation and reflection' (1987, pg.13).

Schulman summarises that in Colleen's case, previous lessons studying literature had shown Colleen's to be a highly effective teachers with her learning style being described as 'student-centred, discussion-based, occasionally Socratic, or otherwise highly interactive' (1987, p.g.18) However, from the change in Colleen's teaching style in the aforementioned grammar lesson, Schulman argues that her lack of ability to comprehend and transform the text meant that she was unable to utilise her PCK during this lesson. From this case study, it appears that Schulman suggests that there is a definitive link between weak subject knowledge and effectiveness of teaching and learning.

Whereas Schulman's research focused on secondary teachers, Rowland *et al* (2003, pg. 97) went on to conduct a study whereby they analysed videotapes of twenty-four Mathematics lessons prepared and taught by trainee primary school teachers. The aim of the study was to identify how the trainees' Mathematics subject knowledge 'played out' in the classroom. From this study, Rowland *et al* developed the 'knowledge quartet'; a comprehensive model for thinking about the ways in which subject knowledge plays out within the classroom.

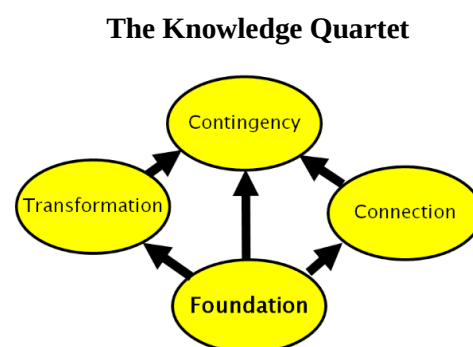


Figure 3 (Rowland, 2017: The Knowledge Quartet)

The four units of the Knowledge Quartet

1) Foundation

- Understanding the content of the text being taught.
- An understanding of effective pedagogy
- Using correct and accurate terminology

2) Transformation

- Being able to model, present and demonstrate to that pupils in a way that pupils can interpret and understand.
- Selecting appropriate resources to scaffold learning
- Being able to explain concepts clearly

3) Connection

- Being able to make connections between different ideas and build upon prior learning
- Understanding when learners are ready progress onto the next stage of their learning

4) Contingency

- Being able to respond to learners' questions, challenges and ideas
- Having a flexible approach if there is a need to deviate from the lesson plan

This Knowledge Quartet shares many similarities to Schulman's Model of Pedagogical Reasoning and Action and much of the content in both models overlaps. An example of this is how, although there is no specific unit on Reflection in the quartet, one could argue that a teacher cannot make connections without reflecting. To decide whether it is a good time to progress learning, an effective teacher must first reflect on what has been taught and understood by the pupils so far.

In the paper 'The Knowledge Quartet', Rowland *et al* analyse a Mathematics lesson on subtraction taught by a 'lower primary' PGCE student named Naomi, who is placed in a Year 1 class. Rowland *et al* firstly acknowledge that Naomi's achieved an A* in GCSE Maths and that each of her responses in a Maths subject knowledge audit were 'model' answers.

During the lesson, Naomi's lack of teaching experience means that she sometimes finds it difficult to transform this knowledge in way that can be understood clearly by the pupils. She also misses the opportunity to make two important connections during the lesson and finds it difficult to respond to a pupil who comes up with an alternative method for subtraction.

Rowland *et al* suggest that when trainee teachers are embarking on their new career, there is a gradual process of aligning 'pre-existing beliefs' and 'new 'theoretical' knowledge' (2003, pg. 102).

This analysis of Naomi's lesson raises the question of whether subject knowledge is indeed rendered useless without sufficient pedagogy, skill and experience in how to transform this knowledge to make it accessible to learners?

Coe *et al* (2014) raise concerns that observational methods employed in trying to measure teacher effectiveness, whether this be lesson observations, book scrutiny or student feedback, are still unable to provide an accurate picture of how much pupils actually learn. They also argue that effective pedagogy is difficult to measure and existing research studies may fail to consider the wide scope of outcomes that might also fit the criteria for desirable educational achievements. They believe that external factors will influence teacher effectiveness, such as, pre-existing pupil characteristics, the school environment and the context. An example of this could be a primary teacher trying to deliver an I.T lesson in a small, overcrowded computer suite where only a five out of 8 computers are working. Would it then be fair to judge the effectiveness of the teacher in such a lesson?

Hattie (2012) emphasises that regardless of external factors, teachers must view themselves as 'positive change agents' for the pupils that come to school and are keen to learn. He believes that it is the beliefs and commitments of teachers that have the greatest impact on pupil attainment. In his ground-breaking study on effect size, Hattie claims to illustrate that teachers' subject knowledge had a minimum effect on the quality of pupil outcomes. Hattie believes that it is the way in which teachers apply this knowledge within the classroom that makes them 'expert teachers' and not the knowledge itself. Through a more integrated body of knowledge, expert teachers are able to predict potential barriers to learning and 're-

organise their problem solving in light of ongoing classroom activities' (2012, pg.25). Being able to be a flexible teacher, who can re-organise activities and 'think on one's feet' is also seen in the Contingency unit of the knowledge quartet.

Another essential factor for becoming an expert teacher, according to Hattie (2012) is the ability to teach in a cross-curricular way. This is in fact a core feature of Donaldson's (2015) Successful Futures report in his review of the current curriculum in Wales. In his recommendations for a new curriculum, which incorporates all pupils from the age of 3 to 16 years, Donaldson recommends the introduction of three "cross-curriculum responsibilities" – literacy, numeracy and digital competence. This expectation will impact on all primary and secondary teachers in Wales as they will need to adapt their teaching to a more flexible approach.

Hattie also believes that the expert teacher is able to create an ideal classroom climate where learning is celebrated and where pupils feel that they can make mistakes. However, it could be argued that creating an 'optimal classroom climate' (2012, pg.29) is simply applying effective teacher pedagogy and to do this it is optimum to have a sound knowledge base, as illustrated in the previous models (Schulman, 1987) and (Rowlands *et al*, 2003). Hattie's proposal for the ideal classroom setting is supported by the constructivist viewpoint, where learners are actively involved in their learning. The environment is one which is democratic and accessible to all. The student-centred approach to learning attempts to mirror student interests where possible, integrating materials across the curriculum subject areas (Chall, 2000). Linking learning is in fact highlighted in the Comprehension component of Schulman's Model of Pedagogical Reasoning and Action and the Comprehension unit of Rowland *et al*'s Knowledge Quartet.

In summary, there are explicit links between the knowledge frameworks for effective teaching proposed by the educators Schulman, Rowlands *et al* and Hattie.

Reflection

Mathematics and Numeracy

I acknowledge that Mathematics is my weakest area in terms of subject knowledge. Although I achieved a 'B' grade in GCSE, as a mature student, I have lost confidence in my ability. Having been placed in a Year 6 class, I was particularly nervous about explaining Maths in a clear and concise way and not letting my own fears jeopardise the execution of my lessons. I was relieved on being told that I would only be responsible for teaching the lower ability Maths set during the placement, but I soon found that this presented its own challenges.

The first area of the curriculum that I covered was to show an understanding of simple fractions. I understood the subject matter and to prepare for teaching this unit, I revised the correct terminology that I needed to use when explaining fractions. It was clear during the first lesson that I would need to stress the importance of using mathematical language as pupils were inclined to say three 5's instead of three fifths and two 3's instead of two thirds. In order for the pupils to build up a vocabulary with which to talk about fractions, I modelled the appropriate language on the board and drilled it with the class, applying effective pedagogy skills.

Hattie (2012, pg. 29) reinforces the importance of creating a classroom climate in which student error is welcomed and where it is okay to acknowledge that the process of learning is 'rarely linear'. This was certainly true in this case as I had wrongly assumed that pupils would know/ remember this language and had to quickly adjust my lesson. Rowlands, *et al* (2003) outlines Contingency as one of the four units of Knowledge Quartet; an ability to deviate from lesson plans when the need arises. A disadvantage of being a student teacher is that you do not know your pupils well enough and are unsure of the level at which to 'pitch' your lessons. By reflecting on this incident, I learnt that when introducing new subject matter, or in this case, subject matter that pupils might not have reviewed for some time, I would have to attain the general level of understanding first by doing a 'refresher' activity. Schulman (1987, p.g.19) highlights reflection as a key component in his prescribed knowledge base for teaching, the Model of Pedagogical Reasoning and Action, as a 'set of processes through which a professional learns from experience'.

I found that I was able to transform the subject matter in a way in which the pupils could understand fractions. By getting pupils to use their own bodies to make ‘human’ fractions, I was able to apply effective pedagogical content knowledge and ensure concepts were understood, as noted by Schulman (1987) in the Transformation unit of the Knowledge Quartet. I was also particularly pleased with the success of a conveyor-belt style activity (Appendix A) using physical objects (paper plates, cubes); this blend of concrete and pictorial Mathematics appeared to work seamlessly. Haylock and Thangata discuss the process of making connections in Mathematics as one where the pupil builds understanding of mathematical concepts and ideas through a ‘growing awareness of relationships between concrete experiences, languages, pictures and mathematical symbols’ (2007, pg.109).

Although the pupils seemed to be finding success in making connections in fractions, as a teacher, I found this proved to be the most challenging aspect when explaining equivalent fractions. Getting pupils to use paper strips to make their own fraction walls did help the pupils grasp the concept, but I came up against a significant problem when pupils did not know their times tables and therefore found it difficult to see connections. My lack of experience made me flounder as I struggled to come up with an alternative way to explain equivalent fractions; my subject knowledge was limited which impacted on my pedagogical effectiveness as a teacher. Cotton (2016, pg.6) also highlights the ability to make connections as an important prerequisite of Mathematical subject knowledge, as being able to do so allows the teacher to view Mathematics as a ‘whole’ instead of a ‘series of separate and often disparate ideas’.

I encountered a similar problem when teaching multiplication (2 digit by 1 digit); it soon transpired that over half the class could not recall their times tables. As pupils resorted to writing their times tables out in a rote method underneath the box to try and help themselves recall them, I found myself getting very frustrated as the pace of the lessons ground to a halt and consequently my lesson plans were thrown into disarray. I sought advice from my mentor and introduced dienes equipment and counters to my lessons, which enabled pupils to physically group, partition and count numbers to help them form their own multiplication strategies and comprehend place value (Appendix B). In his social constructivism theory of

learning, Bruner, considered the importance of the adult role within the learning environment and highlighted the theory of ‘scaffolding’; a process by which an educator carefully observes what children can do and builds upon this knowledge with activities to extend their learning (Pound, 2006). On reflection, I believe that in this lesson I successfully scaffolded the pupils’ learning and in terms of the Knowledge Quartet, I showed effective teaching through Transformation and Connection.

Cotton (2016) reinforces the notion that pedagogical subject knowledge and subject matter knowledge are essential components to effective teaching. To be able to teach Mathematics effectively, teachers must have awareness of the choices that they make, for example, how to group learners in the class. Cotton believes that subject knowledge is developed through experience, as teachers find activities and strategies to help them develop their expertise.

Language, Literacy and Communication

I believe that English is the primary subject in which I have the most subject knowledge. I also have a degree in Journalism, so I was excited to teach how to adapt structures in writing for different contexts, as part of the writing strand of the curriculum. The pupils had been studying the story of Robin Hood and first had to perform a news broadcast as part of the oracy strand of the curriculum. Apart from some confidence issues in performing in front of each other, the pupils showed great enthusiasm for the lesson. They were able to devise their own ‘Steps to Success’ and went off in groups to write dialogues with probing questions to illicit interesting answers from the characters Robin Hood and Lady Marion.

The problems arose over the next few lessons, when the pupils had to write a newspaper report on the ‘news’ item that they had covered in their broadcasts. This was the first time that the pupils had attempted to write a news report since being in Year 6 and they encountered many difficulties. They found it very difficult to adapt their language to the correct style of a newspaper report and continued to write in the first person and in the style of a news broadcast (Appendix C). My attempts to explain how this language would not be used in a newspaper report was met by a classroom of confused faces and even after showing examples of child-friendly newspaper reports, the majority of pupils could still not write in

the correct context. My mentor suggested writing some sentence starters on the board for the pupils and I also brought in physical copies of newspapers from home, for pupils to see actual examples of eye-catching headlines, puns, quotations and paragraphing. Without the help from an experienced teacher, I would have been stuck, unable to transfer my innate knowledge explicitly in a way in which pupils could understand.

Brien (2012) considers this transfer of knowledge from teacher to pupil as a process which requires careful consideration, as the educator attempts to link new concepts to the pupils' existing knowledge. In a constructivist view of how children learn, Piaget refers to '*schemas*', cognitive structures into which children organise their knowledge; as their minds develop the *schemas* advance and become more complex (Flavell cited in Halpenny and Petterson, 2014).

Digital Competency

In his outline for a new curriculum in Wales, Donaldson (2015) proposes that numeracy, literacy and digital competence are cross-curricular subjects; they will be interweaved into lessons across the primary curriculum and not just be taught as stand-alone subjects. This should enable children to become highly competent in these areas.

Donaldson highlights the importance of teaching ICT skills across the curriculum so that pupils have the opportunity to be 'ambitious, capable learners' and 'enterprising, creative contributors' (2015, pg. 29). He stresses the increasingly powerful role that digital competency has in the lives of young people and how primary and secondary schools need to cultivate these skills to equip children for the modern day workplace.

In terms of my own ICT skills, there are gaps in my own subject knowledge, which I was concerned would be exposed whilst on PTE1 placement in Year 6. I had to confess to my mentor that I had never used a virtual reality headset or seen a green screen in action. After learning how to use the Airplay function on the iPad, I was able to practise integrating I.T into lessons. However, under pressure during an observation, I failed to use this function even though I had put it in my lesson plan (Appendix D). When questioned about this omission by

my placement tutor, I admitted that I was too nervous to use the iPad. I feel that with better subject knowledge in this area, I will gain more confidence and be able to weave ICT in my lessons seamlessly and confidently teach pupils these importance skills, which the new curriculum in Wales will require.

Topic

The topic that the Year 6 class was studying was Celts and as the pupils embarked on independent learning on Boudica, I realised that there were significant gaps in my own subject knowledge. I struggled to help them piece key dates together to make timelines and answer their questions on Roman history. I frantically researched the history of Boudica at home, but throughout the whole week that the pupils were undertaking their projects, I felt panicked that the pupils would ask me questions and expect me to know the answers. I realised that if I was to be able to teach a whole topic effectively as a primary school teacher, I would have to research the content thoroughly first and ensure that I had significant subject knowledge. I feel that by doing this, I would be more confident in the effectiveness of my teaching.

In Donaldson's new curriculum proposal for Wales (2015), he outlines six Areas of Learning and Experience (AoLEs). These combine a diverse range of subjects and along with Maths, English and ITC becoming cross-curricular subjects, this will certainly present a challenge in terms of my own subject knowledge in the early stages of my teaching career.

Conclusion

In consideration of the literature presented in this essay and my own reflection, I feel that to be an effective teacher in the primary school, subject knowledge is very important, particularly for core subjects, such as Maths and English. In order to be able to prescribe to the knowledge bases referred to in this essay, a teacher must first have a good foundation of subject content knowledge. In order to transform a text, a teacher has to fully comprehend it and without transformation, a teacher's pedagogy skills will only take them so far. To be able to have the desired impact on pupils' learning, I believe that an effective primary teacher

should have a high standard of pedagogical content knowledge, which will enable them to combine excellent pedagogy and subject knowledge.

I also believe that having excellent curriculum knowledge is fundamental to having a positive impact on pupils' learning. Donaldson's new curriculum in Wales (2015) might appeal to teachers who welcome its flexibility, but it might also present challenges for those who might not yet have the foundations of excellent subject knowledge with which to make connections and transform. In terms of my own subject knowledge, I will aim to improve my Mathematical, Literacy and ICT skills, as I strive to take a cross-curricular approach to teaching to conform to the demands of the new curriculum.

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Appendices

Appendix A

Canolfan Addysg Athrawon De-Orllewin Cymru  The South West Wales Centre of Teacher Education				1B	
Session Plan – Key Stage 2					
Name of trainee: Lucy Fitzpatrick			Session ref: Maths – Lesson 5; Fractions		
Personal target(s) in relation to QTS: S3.3.9 To set high expectations for learners' behaviour and establish a clear framework for classroom discipline to anticipate and manage learners' behaviours constructively and promote self-control and independence.					
Year group: 6 (L.A)		No. of learners: 24		ALN: A.K: dyslexia; Work with L.S. O	
Additional Adults:		1			
Learning objective(s): Pupils will: To find equivalent fractions in thirds			Success criteria: - Can I record fractions using cubes, counters and paper plates? - Can I find equivalent fractions?		
Links to previous learning: Pupils have studied fractions in previous lesson					
Resources: 72 strips of paper, glues					
Curriculum coverage (range, skills)					
<i>Maths</i> - transfer mathematical skills to a variety of contexts and everyday situations - use understanding of simple fraction, decimal and percentage equivalences, e.g. find 25% of 60cm and know that this is equivalent to $\frac{1}{4}$ of 60cm					
<i>Literacy (LNF)</i> express issues and ideas clearly, using specialist vocabulary and examples			<i>Numeracy (LNF)</i>		
DCF		Thinking		ESDGC YCC	
<i>Key vocabulary (English/Welsh):</i> fraction, part of, whole number, denominator, numerator					
Resources: cubes, counters, paper plates, strips of paper with fractions written down (include some that can be reduced down further). Fraction game https://uk.ixl.com/math/year-6/fractions-rev					
Time	Session activities, organisation and management				Key questions & Assessment for Learning opportunities
10 mins	Introduction - Maths skills starter multiplication (practise box method) - Do it in books individually.				Fractions ladder. Can they tick any off?
	<table border="1" style="width: 100%;"> <tr> <td style="width: 50%; text-align: center;">48 x 8</td> <td style="width: 50%; text-align: center;">34 x 5</td> </tr> </table>				
48 x 8	34 x 5				

	<table><tr><td></td><td></td></tr></table> Extension <table><tr><td>74 x 4</td><td>26 x 2</td></tr></table>			74 x 4	26 x 2	Thumbs up, out and down at end of lesson to tell me how they are feeling about fractions now.
74 x 4	26 x 2					
40 mins	Main activities • Show thirds fraction wall PPT to recap • Finish off the thirds fraction wall in books • Set up 3 stations at different desks. 1) Cubes 2) Paper plates 3) Counters • Write different fractions on slips of paper and leave in a plastic wallet in the middle of each desk. • Pupils have to make the fractions out of the apparatus (concrete Maths) and record it in books (pictorial representation). When they have completed the fractions on one desk, move to the next (conveyor belt style activity). • Extension activity – can they find equivalent fractions out of the fractions they recorded by using their fraction walls as a guide? i.e. can they spot that $\frac{2}{6} = \frac{1}{3}$?					
10 mins	Plenary • 60 second challenge: Talk to your partner for 60 seconds and suggest one thing you have both learned today • Fraction game https://uk.ixl.com/math/year-6/fractions-rev					

Appendix B

Canolfan Addysg Athrawon De-Orllewin Cymru  The South West Wales Centre of Teacher Education				1B					
Session Plan – Key Stage 2									
Name of trainee: Lucy Fitzpatrick			Session ref: Maths – Lesson 8; Multiplication						
Personal target(s) in relation to QTS: S3.3.7 To organise teaching and learning time effectively									
Year group:6 (L.A)		No. of learners: 24		ALN: A.K: dyslexia; Work with teacher					
Additional Adults:		1							
Learning objective(s): Pupils will: To use mental strategies to multiply a 2 digit number by a single digit number.			Success criteria: - Can I use dienes/ cubes to group tens and units to help me multiply? - Can I explain what method I used?						
Links to previous learning: Pupils have been having refreshers on the box method in previous lessons.									
Curriculum coverage (range, skills) <i>Maths</i> Use mental strategies to multiply a 2 digit number by a single digit number.									
<i>Literacy (LNF)</i> express issues and ideas clearly, using specialist vocabulary and examples			<i>Numeracy (LNF)</i>						
<i>DCF</i>		<i>Thinking</i>		<i>ESDGC</i>					
				<i>YCC</i>					
Key vocabulary (English/Welsh): multiple, multiply, add, subtract, partition, group, remainder									
Time	Session activities, organisation and management				Key questions & Assessment for Learning opportunities				
10 mins	Introduction - Maths skills starter multiplication (practise box method) - Do it in books individually. <table border="1" style="margin: 10px auto;"> <tr> <td style="padding: 5px;">13 x 7</td> <td style="padding: 5px;">85 x 4</td> </tr> </table> Extension <table border="1" style="margin: 10px auto;"> <tr> <td style="padding: 5px;">26 x 9</td> <td style="padding: 5px;">77 x 5</td> </tr> </table>				13 x 7	85 x 4	26 x 9	77 x 5	AFL: 60 seconds challenge. Tell your neighbour one thing you now know about the box method and one thing you are still unsure of.
	13 x 7	85 x 4							
26 x 9	77 x 5								
Main activities									
40									

mins	• Get pupils to sit on the carpet. • Write a sum on an A3 piece of card 42 x 3 and then show what the sum would look like using dienes (4 rods = 40 and 3 cubes to show the 3 units. Explain that we need 3 sets of these as we are multiplying by 3). • Now add this up manually as a class = 126 • Check calculation with the box method in front of class. • Write 5 sums on boards • Get pupils to work out sums using equipment (concrete Maths) • MAT: do this without physically using cubes but still drawing them in books to show grouping.
10 mins	Plenary • Peer Assess. Compare answers with your neighbour. Did they meet their S2S?

Appendix C

Model Beirniad Wedi Adfyfyrio (BWA)

Assisted Reflective Conclusions (ARC) Model

Dyddiad/Date: 29.11.2018

Digwyddiad critigol (Ffocws)/Critical incident (focus): Literacy

Profiad/ Experience	
Teimladau/ <i>Feelings</i> Beth yw eich teimladau ynghylch y profiad? "What are your feelings regarding the experience?"	I have mixed feelings about how today's lesson went. I feel that there were good elements of the lesson, but I feel disappointed that some pupils still can't grasp the language needed to write a newspaper report.
Cofio a Deall/ <i>Remember and Understand</i> Allwch chi restru'r agweddau ar y profiad dysgu a aeth yn dda? "Can you list the aspects of the learning experience that went well?" Pa elfennau o'r profiad dysgu oedd yn siomedig? "What were the elements of the learning experience that were disappointing?"	- The pupils responded well to the intro where I showed an example of a pupil's work from yesterday on board. - They were able to identify the 5 W's in the opening paragraph and see where the pupil had gone wrong by writing in the first person. - The pupils found it helpful to read over 2 examples of newspaper reports which I put on each desk. - Some pupils were still confused and were still writing dialogue in the style of a news broadcast, i.e. 'Our reporter was at Sherwood Forest to speak to Robin Hood'. I found this frustrating as I felt that I had run out of ways to explain what language is required in a newspaper report.
Gwerthuso a dadansoddi/ <i>Evaluate and analyse</i> Beth fyddwch chi'n cadw'r un fath l sicrhau dysgu ac addysgu effeithiol yn y dyfodol? "What will you keep the same to ensure effective teaching and learning in the future?" Beth oedd achos yr elfen siomedig bwysicaf? "What was the cause of the most important disappointing element?"	- Show good examples of pupil's work at the start of the lesson to help guide pupils. - The class have not written news reports since Year 5, so they had forgotten the language that you use for this genre of writing.

Casgliadau a chymau gweithredu/ <i>Conclusions and actions</i> <i>Beth yw eich atebion posibl i'r materïon siomedig a nodwyd?</i> <i>"What are your possible solutions to the disappointing issues identified?"</i> <i>Beth ydych yn mynd i'w wneud nesaf?</i> <i>"What will you do next?"</i>	- Do a refresher lesson on new writing topics like newspaper reports before expecting work. Provide templates to help the weaker pupils. - In tomorrow's lesson, finish off writing the main body of text in pupils' books and then up-level the vocabulary.
Y profiad newydd / <i>Transformed experience</i>	

Appendix D

Canolfan Addysg Athrawon De-Orllewin Cymru  The South West Wales Centre of Teacher Education			1B
Session Plan – Key Stage 2			
Name of trainee: Lucy Fitzpatrick		Session ref: Literacy – Lesson 8 (writing newspaper report)	
Personal target(s) in relation to QTS: S3.3.13 To work collaboratively with specialist teachers.			
Year group:6	No. of learners: 28	ALN: A.K	
Additional Adults:			
Learning objective(s): Pupils will: Adapt structures in writing for different contexts, e.g. reporting an event,		Success criteria: Pupils to devise their own Hints: - Introductory paragraph to include the 5 W's – Who, What, Where, Why, When - Information about the main events presented in chronological order - Written in the past tense - Non-biased – can include opinion but not the reporter's opinion. - Include quotations - Formal language - Powerful adjectives - Correct spelling - Paragraphs - Conclusion	
Links to previous learning: Pupils are studying literacy through the topic of Myths and Legends. They are currently learning about the story of Robin Hood. They have previously examined a newspaper article about Robin Hood's escapades and extracted 'biased' news. In the previous lesson, they created their own dialogue for a televised news broadcast and acted it out. This lesson is a follow on from the last lesson where the pupils will be using the dialogue to create a newspaper report.			
Curriculum coverage (range, skills) <i>Strand: Writing</i>			

• write in a range of continuous and non-continuous texts in a variety of forms, e.g. letters, diaries, articles, stories, reports, speeches, short plays and scripts, leaflets, advertisements, posters, web pages, questionnaires, reviews, soliloquies • write for a range of authentic audiences, real or imagined, e.g. peers, younger learners, teachers, family members, historical and fictional characters • adapt the writing style to suit the reader and purpose, e.g. formal style for unknown reader, simple style for younger readers • reflect on, edit and redraft to improve their writing. • adapt structures in writing for different contexts, e.g. reporting an event, investigation or experiment			
<i>Literacy (LNF)</i> • express issues and ideas clearly, using specialist vocabulary and examples		<i>Numeracy (LNF)</i> •	
<i>DCF</i> • iPad (Airplay)	<i>Thinking</i>	<i>ESDGC</i>	<i>YCC</i>
<i>Key vocabulary (English/Welsh):</i> reporter, broadcast, interview, subject, intonation, tone, facial expression, body language, biased, non-biased, news, persistent, fair			
<i>Resources: Literacy books.</i>			
Time	Session activities, organisation and management		Key questions & Assessment for Learning opportunities
10 mins	Introduction • Recap on L.O and explain that today we are going to design our own newspaper templates using a4 paper. • Generate S2S for how we want it to look. • Airplay example real newspaper report from The Mirror on the board and point out key features.		AFL: Peer assess each other's work giving written feedback.
40mins	Main activities • To design own template using columns. • Must have name of newspaper, headline, picture and caption. • L.A Give template.		

10 mins	Plenary • Swap work with person sitting next to you and give them 2 stars and a wish.