

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

Introduction

A teacher's subject knowledge is critical in ensuring that learning and teaching, in a primary school setting, is effective (Loucks-Horsley et al 1998; The National Commission on Teaching and America's Future, 1996). During this essay, I will compare the literature surrounding this topic before analysing and providing an evaluation of my own subject knowledge for primary teaching. My own subject knowledge will be evaluated from my first Professional Teaching Experience (PTE 1) which I completed in a local placement school. To conform with BERA 2018, I will ensure that the anonymity of the school, staff and pupils is kept throughout this assignment.

The primary school I was placed in is situated in a small village in south Wales and caters for 180 children, aged 3 – 11 years. In their most recent inspection in 2014, the school was said to serve a disadvantaged community, with approximately 33% of its pupils being entitled to free school meals and approximately 43% of pupils identified as having additional learning needs (reference is absent to ensure anonymity). I was placed in a mixed Year 1/2 class which was comprised of 29 pupils, with 11 of these being Year 1. The class teacher was supported by two learning support officers who would work with a group each lesson. I had the responsibility of leading work with one or two groups; the teacher rarely did a lesson with the whole class. The children were split into four groups, Afalau, Lemonau, Mefus and Orennau, with Afalau being the highest ability and Orennau, the lowest.

Literature Review

Shulman, 1987 believes that a knowledge base of teaching exists; it is comprised of knowledge and understanding, a level of skill and, additionally, a way of conveying and communicating this with the learners. Furthermore, he states that pedagogical content knowledge is integral to ensure that effective teaching occurs. Similar research by The Holmes Group, 1986 and Carnegie Task Force, 1986 both support that a knowledge base of teaching exists and that this base is growing. They both argue that this base should be a fundamental aspect in teacher education and that it should be used to directly influence the practice within a learning environment. The knowledge base explains that critical features of

teaching exist, these include the subject matter that is being taught, the classroom context and the psychological and physical characteristics of the students (Shulman, 1987).

Shulman broke these down into content knowledge and pedagogical content knowledge. He stated that content knowledge alone, the understanding of a subject matter, was not enough for teaching to be effective. He argued that the teacher also needed to possess an understanding of pedagogical content knowledge to ensure the education they were providing, ensured the learning and teaching was effective. Pedagogical content knowledge refers to the knowledge of how a subject can be made accessible to the learners, for example understanding their individual needs, accepting that subjects can be taught in different ways and ensuring the teacher understands the importance of instruction (Shulman, 1986; Coe et al, 2014). With reference to the new curriculum in Wales, Graham Donaldson believes that pedagogy is central in being an effective teacher (Donaldson, 2015). In contrast to this, research by Hattie (2012) discovered that a weak relationship existed between content knowledge, pedagogical content knowledge and the children's achievements. He believed that what the teacher taught and their beliefs on how they teach it are more fundamental to the children's outcomes.

Shulman stated that certain types of knowledge and skill are needed to teach difficult topics or subjects; a teacher's success, error and refinement produce a growth in their subject knowledge and are therefore fundamental in their development (Shulman, 1987). A study by Grossman, 1985 observed a teacher called Colleen through a series of English lessons. One lesson required her to teach the children grammar; despite Colleen having an English degree, she informed the observer that she was experiencing anxiety before the lesson. It has been discovered that if one lacks confidence in their own subject knowledge, then anxiety may be induced (Williams, 2003). Her lesson was very didactic and appeared to be rushed and recited. There was very little eye contact with the learners and there were no opportunities for the children to ask questions or for them to lead their own learning, something that is significant in Wales due to Donaldson's new curriculum. Donaldson is ensuring that children are given opportunities throughout the curriculum to lead their learning and increase their independency (Donaldson, 2015). Due to Colleen's lack of subject knowledge, she did not possess the knowledge or skill to teach the topic fully to the children. She lacked significant confidence, and this had a detrimental impact on the

children's learning. In a previous observation, Colleen possessed enthusiasm and her teaching style took an interactive approach. This lesson was successful, and the children's learning was greatly developed. The contrast of these two lessons, highlight the importance and the impact that good content knowledge, accompanied by good pedagogical knowledge, can have. This supports Shulman's (1987) point that a teacher needs to possess a certain type of knowledge and skill as Colleen's situation highlights the negative impact that a lack of knowledge can have on a lesson and accentuates the importance of having a good knowledge base. A similar study also accentuated the importance of teacher knowledge and suggested that a significant relationship exists between a teacher's knowledge and student attainment (Hill et al, 2005). In contrast to this, Hattie (2012) specified that the classroom climate is of great importance in teaching. He believed that the perfect classroom atmosphere is one that allows trust to develop. He implied that children need to understand that mistakes, and not understanding or knowing something, is what allows their learning to progress. Therefore, Colleen's lack of subject knowledge could have been used in the lesson to inform the children of this and they could have learnt 'together', as Hattie believed that both the children and their teacher should be involved in the learning that takes place (Hattie, 2012).

A study performed on a group of teachers in Peru discovered that the relationship between teacher subject knowledge and children's achievement was statistically significant (Metzler and Woessman, 2010). The study found that Peru's school attendance levels were good, but they lacked educational quality due to the teachers possessing low levels of subject knowledge (World Bank 2007; Luque, 2008). The report clarifies that poor subject knowledge results in a lack of confidence and as a result, the children's learning is impacted negatively. This supports Shulman (1987) and Grossman (1985), however the report went on to state that a variety of teacher attributes had been examined but found that teacher subject knowledge was the only attribute to be associated with student achievement (Hanushek 1986; Hanushek and Rivkin 2006). This disagrees with Shulman (1987) as he believed that it was not just subject knowledge alone that influenced teaching and learning, but also, pedagogical content knowledge. In contrast, some research has identified that there is little, or no, correlation between a teacher's content knowledge and student achievement (Rockoff et al, 2011). Shulman explained that for teaching and learning to be

effective, content knowledge and pedagogical knowledge must intertwine (Shulman, 1987). However, the research by Rockoff et al, 2011 may suggest that one may possess satisfactory content knowledge but deliver effective lessons due to having a good understanding of pedagogical content knowledge; could pedagogical content knowledge alone produce effective learning and teaching?

As previously discussed, Shulman argued that pedagogical content knowledge was fundamental in producing lessons that were highly effective (Shulman, 1987). Coe et al, 2014 agrees with Shulman; for a teacher to be effective, they need to possess an excellent knowledge of the subject they teach as well as the pedagogy surrounding it. Teachers need to understand the individual needs of the learners and how they may interpret what is being taught to them. In addition to this, teachers need to understand and identify the misconceptions that the children are likely to make and must consider the children's thinking and use this to shape how the lesson will be planned and taught (Coe et al, 2014). In support of this, a study by Smith and Neale, 1989 examined the impact that pedagogical content knowledge can have on effective learning and teaching. The study involved ten primary school teachers who lacked knowledge, pedagogically, and believed that a didactic approach was the most effective way of teaching Science. Over the course of the programme, they acquired pedagogical content knowledge and began to understand that Science can be taught using different approaches and can have a highly effective impact on the children's learning. This study highlights that the way in which a subject is taught and how the children are challenged, the pedagogical understanding, is integral in ensuring children receive an effective education (Smith and Neale, 1989). This links with the new curriculum in Wales as the progression steps created by Donaldson, suggest that the children should be challenged and that the teacher should set high expectations. Thus, resulting in the children building resilience and gaining confidence (Donaldson, 2015).

The quality of instruction is said to impact strongly on a learner's achievements; reviewing the student's learning, providing them with scaffolding, providing them with model answers and explaining the learning objective at the start of the lesson all impact strongly on the effectiveness of the children's learning (Coe et al, 2014). Coe et al's suggestion that the explanation of the learning objective at the start of the lesson can have a positive impact, supports Shulman's report. It was stated that research had indicated that the student's

achievements increased when they were told of the learning objective (Coe et al, 2014). This accentuates that a significant interaction exists between content knowledge and pedagogical content knowledge and highlights the importance of instruction (Shulman, 1987).

The Knowledge Quartet focuses on content knowledge and pedagogical content knowledge and then identifies where these can be seen in teaching (Shulman, 1986). The research that was performed, aimed to highlight the ways that trainee teacher's mathematical knowledge impacted their teaching. The knowledge quartet is composed of four categories, foundation, transformation, connection and contingency. The first category is the foundation, with this referring to the trainee's knowledge and understanding that they have previously acquired prior to their classroom role (Williams, 2003). It is this knowledge that informs the pedagogical decisions that they make in their teaching. It is important to remember that content knowledge is key to this category.

Secondly, transformation; this concerns how the trainee displays their knowledge in their planning and in their teaching (Williams, 2003). Shulman is central to this category as he stated that it is the teacher's ability to incorporate their knowledge into their lessons in a pedagogical manner that makes the teaching and learning effective. He indicates that ideas should be delivered to learners as analogies, explanations and demonstrations (Shulman, 1987). In addition to this, this category focuses on teaching that is directed towards the individual needs of the pupils that has been derived from judgement (Williams, 2003).

The third category is connection. This refers to the quality of the planning and teaching that is displayed over a series of lessons. It highlights how a teacher's content knowledge and pedagogical content knowledge deliberately affects how they link and order sessions to ensure effective teaching and learning occurs (Williams, 2003). This links to Shulman (1987) and clearly identifies the importance of a teacher possessing excellent content and pedagogical knowledge as it is integral across all aspects of teaching. This category additionally explores the importance of the order of an individual session (Williams, 2003) and therefore supports Shulman's (1987) and Coe et al's (2014) idea about the importance of a learning objective. It accentuates that linking the lesson to an understandable objective at the start, produces a lesson that increases the children's achievement.

The final category is contingency; this refers to the events that happen in a classroom that the teacher has not planned for. For example, the ability of the teacher to respond to the learner's ideas and to deviate away from the original lesson plan (Williams, 2003). This has a strong link with Constructivism; a theory that explores the idea that learning is active and that we, as humans, acquire knowledge through experiences. It views the learner as being in control of their own learning and actively learning through discovery (Steffe et al, 2013). This highlights the importance of contingency as it includes the children's contributions. Likewise, this has a strong link with Donaldson's Successful Futures as he wishes for a future and an education that develops a children's learning through individual discovery (Donaldson, 2015). Fenstermacher, 1986 stated that learning is the responsibility of the children and therefore agrees with the knowledge quartet. Additionally, it was quantified that a child-led lesson required the teacher to possess good content and pedagogical knowledge (Fenstermacher, 1986). This supports the research of Shulman (1987) and identifies that any teaching style requires excellent knowledge. However, some research identified that learning through discovery was not effective and this contradicts what has previously been discussed and the new curriculum. It was stated that if a teacher needs their students to learn something new, then they need to teach this to them themselves for the learning to be effective, rather than the children learning through a constructivist-style approach (Kirschner et al, 2006). Williams concluded that a teacher's effectiveness in lessons was a result of more than content knowledge alone (Williams, 2003). Like Shulman (1987), Williams identified that pedagogical content knowledge was integral in producing teachers that can provide effective learning (Williams, 2003).

Analysis of my Teaching

Content knowledge and pedagogical content knowledge are inextricably linked and are fundamental in producing effective learning and teaching (Shulman, 1987). In relation to this, I will critically evaluate and analyse my own subject knowledge in relation to my teaching in PTE 1. I will analyse my own teaching in relation to The Knowledge Quartet (Williams, 2003).

Donaldson wants to create individuals that are ethically informed and are aware of the influence that humans are having on the environment (Donaldson, 2015). Considering this,

along with my geographical knowledge acquired from my Geography degree, I planned and taught a lesson that informed the children of the impact that plastic is having on our oceans and ways this could be overcome (see appendix 1). Prior to this lesson being taught, I felt confident as I had excellent content knowledge, and this indicated that possessing content knowledge is fundamental in producing an effective learning experience (Shulman, 1987). However, when delivering the lesson, I struggled to simplify my knowledge and use language that would be understood by the children. For example, the children struggled with the concept of something being biodegradable; I simplified my definition, but the word was too difficult for the mixed year 1/2 class. Additionally, I found this to be an issue in Mathematics lessons as I was using mathematical terms and language that they were not yet familiar with. This accentuates and supports that content knowledge alone will not produce effective learning and teaching but needs to be accompanied by pedagogical content knowledge (Shulman et al, 2017). Both the Geography and Mathematics' lessons emphasised that my pedagogical content knowledge was significantly weaker than my content knowledge. Therefore, I had failed to consider the impact that it would have on my lesson and consequently on the children's learning. To overcome this, I ensured when planning that my level of explanation was suitable for the children. I began to focus on age appropriate language and terminology that most children would be familiar with. For example, in the pollution lesson I assumed that the children would have a basic understanding and would understand the language I was using as I had good content knowledge. This suggests that having a good level of content knowledge is not extremely important as it can complicate topics for the children. I transferred this knowledge across all subjects I taught and ensured that I had planned the terminology I was going to use; additionally, I used the support of my class teacher to confirm that the knowledge and language I would be using, would be suitable for the children's abilities. Thus, resulting in my teaching being more effective. This situation contradicts Hattie's assumption that there is a weak relationship between content knowledge, pedagogical knowledge and children outcomes (Hattie, 2012).

During PTE 1 I had the responsibility of delivering mathematics lessons to the class. I had to introduce 3D shapes through their topic of supermarkets. To make the lesson interactive and more engaging, I chose to explore 3D shapes in the real world; the children were

required to sort packaging into their correct shapes. For example, they had to place all the cuboids into the correct hoop (see appendix 2). When working with Orennau, the lowest ability group, I found that the children were struggling to understand why an item of packaging was defined as a certain shape; they struggled to transfer their previous knowledge of 3D shapes to this task. Donaldson wants to equip children with the skills to be able to transfer knowledge to an unfamiliar situation (Donaldson, 2015). Therefore, I incorporated this into my lesson, however I had failed to recognise that the children would struggle with this. As only images of the 3D shapes were available, we worked through this part of the task together as I explained why each item was that shape. Some children then started to make links between their previous knowledge and the packaging items they had to sort. This situation indicates that content knowledge alone is not enough to ensure that effective learning occurs (Shulman, 1987). This situation links to the transformation category of The Knowledge Quartet. In this lesson, I had failed to identify the individual needs of the learners, this is something that is central to pedagogical knowledge (Shulman, 1987). Additionally, I had not considered the children's thinking and how they would transfer their already existing knowledge to this situation when I was planning; this is a central part of the transformation category (Coe et al, 2014) and is something that I need to consider in all lessons. To overcome this, I ensured that in future lessons, I considered the individual needs of each child I was working with. My class teacher suggested that when I am annotating my lesson plans, I make note of children who require more support, or children who grasp knowledge by physically doing something. This could then be used to support my future planning and make my teaching and learning more effective. Furthermore, I ensured that I had resources that were suitable and that would positively impact their learning. I believe that if I had had access to the physical 3D shapes, used in the previous lesson, then the children may have been able to link these with this task, resulting in them being able to transfer their knowledge more readily. My lack of pedagogical knowledge in this lesson resulted in the teaching and learning not being effective. Additionally, it accentuated that content knowledge and pedagogical knowledge are closely linked (Shulman, 1987).

The connection category of the knowledge quartet refers to the teacher's ability to coherently sequence the order of a lesson, or a series of lessons (Williams, 2003). My placement school had adopted a visual literacy approach to literacy; I planned and taught a

series of lessons using this approach on the theme of letter writing. At the end of the series, the children had produced their own letter (see appendix 3). When planning the lessons, I would build on the children's knowledge that they had acquired in the previous lesson, ensuring that there was a clear link between the two. I would also start the lesson with a short refresher of what they had previously learnt, this led to them writing an excellent letter with the correct features and layout. This series of lessons highlights the importance of possessing good pedagogical content knowledge as it was important that the lessons, and tasks within them, were sequenced in the correct manner. If the lessons had not been sequenced correctly, the learning that would have occurred would have been poor and the children would lack understanding and confidence. When reflecting on the previous lesson and what they had learnt, I would remind the children of the learning objective. This would refresh their memories and they were able to recall what they had previously learnt. I believe that the learning objective allowed the students to make a link between the lesson and their already existing knowledge. Shulman (1987) and Coe et al (2014) both explained the importance of a learning objective and informing the children of it at the start of a lesson. Both their research highlighted that it would have a positive impact on the outcome of the children's achievements. Therefore, I will ensure to create a concise learning objective for each lesson, that is focussed on what is to be learnt, and share this with the children. Additionally, in the future, I will use my pedagogical knowledge to produce a series of lessons that link effectively to ensure that the children receive a high-quality education.

My Religious Education lesson on the Christmas story (see appendix 4) relates to the contingency category of the knowledge quartet; the category associated with the situations that arise during a lesson that the teacher has not planned for (Williams, 2003). I introduced the lesson by reading the Christmas story to the children, I then asked them questions to gain an understanding of their knowledge. I felt confident as I had good content knowledge and understood the story. However, one pupil then made a point based on the Easter story. This pupil went on to ask why Jesus rose from the dead? I felt I did not have the confidence to answer the question as my knowledge on the Easter story was poor. I felt anxious and started to panic; feeling anxious when your subject knowledge is poor is something that has been suggested to be true by Williams (2003). Likewise, during a Welsh lesson on fruits and vegetables, some children were asking for the Welsh terms of vegetables that I did not

know. I had to inform them I did not know the answer as I did not want to ignore their question. However, I felt disappointed in myself and felt that I had let the children down. Donaldson's Successful Futures wants to take a constructivist approach to teaching and allow the children to be in control of their own learning (Donaldson, 2015). Therefore, I did not feel that it was suitable to dismiss the questions in both situations as they wished to develop their own knowledge, and this is something that needs to be integrated into lessons due to the changes in the curriculum. To overcome this situation in the future, I shall suggest to the children that we will find out the answer together. I believe that a teacher should allow the children to see that there may be somethings that they do not know, accentuating that it is okay to not understand and to make mistakes. Hattie (2012) stated the importance of the children understanding that it is okay to make mistakes and that it is this that allows their learning to develop. I believe it is important to always consider a child's contribution to the lesson, as diminishing it could have a negative impact on the child's confidence and could result in them not contributing in the future. Both situations discussed, were a strong indication that content knowledge is fundamental in providing effective teaching and learning and supports the research by Metzler and Woessman (2010), that a lack of subject knowledge consequently reduces confidence and as a result the children's learning is impacted negatively.

Considering the analysis of my own knowledge from PTE 1, I believe that I possess good content knowledge, but that my pedagogical content knowledge is poor at times. I need to ensure that I always use my pedagogical knowledge when planning my lessons to ensure that the needs of the children are accounted for, that I am explaining the lesson in a way that is accessible to the children and that I pay attention to the resources and examples I give. Additionally, the analysis of my own teaching has highlighted that content knowledge must be accompanied by pedagogical knowledge to ensure that effective teaching and learning occur (Shulman, 1987).

Conclusion

To conclude, there is strong evidence to confirm that for effective teaching and learning to occur a teacher needs to possess good subject knowledge. It is important to remember that subject content knowledge alone is not enough, this needs to be accompanied by

pedagogical knowledge for effective teaching and learning to occur (Shulman, 1987).

However, Hattie contradicted Shulman and suggested that no relationship exists between a teacher's knowledge and the children's outcomes; he believed that building trust with your students was more important (Hattie, 2012). Considering this and the other literature reviewed in this assignment, I believe that content knowledge must be accompanied by pedagogical knowledge. However, other factors, such as the points suggested by Hattie, must also be considered to ensure effective learning and teaching takes place. In review of my own teaching during PTE 1, I feel that I demonstrated good subject knowledge across many of the subjects, but I need to improve my pedagogical knowledge and use that knowledge to inform my planning. My next steps for development are to consider and understand the needs of my learners and to use the curriculum to ensure that I am using language that the children will understand.

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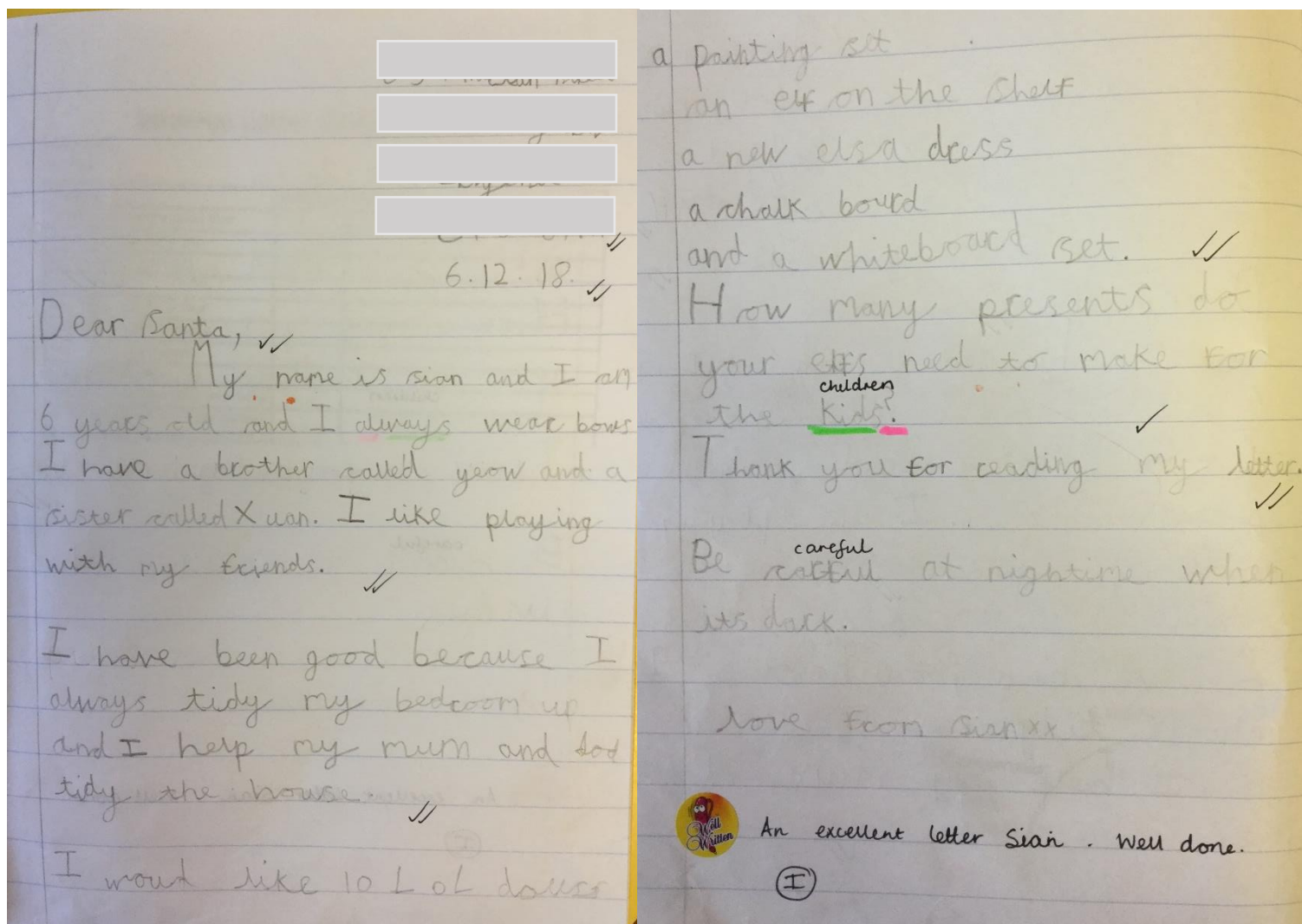
Appendices

Appendix 1: Lesson plan for Geography lesson

Name of Trainee: Rachel O'Sullivan		Session ref: 30/11/18 1:00 – 2:15	Date: 30/11/18	Class: Year 1/2	Cynllun Ffocws y Cyfnod Sylfaen 2d	
Targed(au) Hyfforddi Personol		- To incorporate AFL more in my sessions. - Plan with independence. - Use Welsh when possible in my sessions.	Number of learners: 7	Age: 5 – 7 years		
Learning objectives/intentions:		- Recognise the impact that humans are having on the environment. - Express their own opinion and support it with reasons.	Success Criteria	- I can give my own opinion. - I know what we can do to reduce the amount of pollution in our oceans.		Meeting learners' needs:
Introduction/plenary tasks		Main activities		Resources/ Key Vocabulary		Assessment for Learning (strategies and opportunities)
Introduction Explain that they are going to be like Ethel in today's lesson, and that they are going to learn about what they can do to help our environment – ethically, informed citizens (relates to Donaldson's four purposes). Introduce the lesson using the images power point – show the images to the children and get them to reflect on each image – what has happened? How does it make you feel? Is this good or bad? How do you think the seal feels? And why? Next, play the plastic pollution power point. Explain to the children that there are many ways we can reduce the amount of plastic in our oceans. Tell them that we are going to play a game and that they are going to have to guess, from the clues, the different solutions to reducing plastic. Once the children have seen all 8 solutions, introduce the Welsh 5p bag charge (makes a link to Wales). Explain that Wales was the first country in the UK to introduce a 5p charge on carrier bags – it was hoped that the charge would stop people buying plastic bags and they would reuse their old ones or buy stronger bags for life. Once the power point is finished, get the children to sit at the tables. {20 Minutes max.}		<u>Trainee focused task</u> (purpose, outline of trainee's role and children's learning): To understand the impact that plastic is having on our environment. On the table, there will be examples of the solutions looked at in the power point e.g. plastic bags, microbeads, reusable mug, refillable water bottle, cotton wool buds. Allow the children 5 minutes to familiarise themselves with the solutions – clapping technique to get them back. Ask the children to put the items in the middle of the table, if they don't follow, count to 3 (un, dau, tri). Explain to the children that, in pairs, they are going to order the solutions to reduce plastic, from the most important to the least important. They will do this using the diamond 9 method. They will be provided with cards with each solution on and a diamond 9 template for them to order them – remind the children that there is no right or wrong answer as it is their own opinion. As they're completing the diamond 9, call them all to you and have a quick discussion about what they've all put as the most important solution – comment on who has put the same solution first, who has put a different one first, ask why do you think that is the most important? Remind them that it is their own opinion, so there is no right answer. Once they have ordered the solutions on the template, they will copy it into their workbooks. They can then draw images related to the topic around the diamond 9. Remind them to use capital letters correctly and to ensure they have used the correct spelling. <u>Additional adult tasks</u> (purpose, outline of additional adults' role and children's learning): Class teacher has planned work for the remaining groups – she will lead these groups with the LSOs. <u>Independent learning opportunities:</u> N/A.		- Power point presentations. - Laptop and TV. - Diamond 9 template and cards. - Refillable water bottle. - Face wash with microbeads. - Reusable mug. - Cardboard cotton wool buds. 5p carrier bag. - Bag for life. - Image of a sea bin. - Plastic. - Pollution. - Environment. - Oceans. - Biodegradable. - Solutions.		Questioning throughout the session – ensure open-ended questions are asked so the children have to expand on their given answer. Examples of the questions to be asked: - Is plastic having a good or bad impact on our planet? Why? - What can we do to reduce the amount of plastic in our oceans? - What do you think is the most important solution to reduce the amount of plastic? Why? - What do you think is the least important solution to reduce the amount of plastic? Why? - Do you think more people need to stop using plastic? Why do you think this?
Plenary		What have I learnt today – In their pairs, get the children to discuss what they have learnt today. Inform them that they will feedback what they've learnt to the whole group. Give them a few minutes to discuss this. Use the clapping technique to gain their attention, ask one child from each group to tell us one thing they have learnt.				
Curriculum coverage (range and skills) Personal and Social Development, Well-being and Cultural Diversity. Knowledge and Understanding of the World – outcome 6 – recognise that people have a positive and negative impact on the environment, express their views and support with reason and recognise that people have different views.						
Literacy (LNF) Form upper and lower-case letters accurately and with consistent size.				Numeracy (LNF)		
DCF		Thinking		ESDGC		YCC
Interactive power point – reveals different parts of an image and the children will use the clues to guess the solution to reduce the amount of plastic.		Children are required to express an opinion. They need to work in pairs to create their diamond 9, therefore they must listen to each other's opinions and then decide on the order.		- Children will learn that the choices they make, have a significant impact on the environment. - They will learn about what they can do to help our environment		5p bag charge in wales – first nation in the UK to introduce a 5p charge to reduce the amount of plastic in our environment

Appendix 2: Lesson plan for Mathematics lesson

Name of Trainee: Rachel O'Sullivan		Session ref: 13/11/18 9:05-10:05 and 1:00-2:15	Date: 13/11/18	Class: Year 1/2	Cynllun Ffocws y Cyfnod Sylfaen 2d
Targed(au) Hyfforddi Personol		Use behaviour strategies modelled by class teacher and reflect on practice through informal jottings.	Number of learners: 8 per session	Age: 5 – 7 years	
Learning objectives/intentions:	- Recognise and name regular and irregular 2D and 3D shapes, understand and use the properties of shape. - Sort and classify objects using criterion.	Success Criteria	- I can apply my knowledge of 3D shapes to everyday life. - I can sort different shaped packaging into categories.	Meeting learners' needs:	Children who are struggling with the task will receive more support. MS will be encouraged to work independently, rather than copying from others. Encourage her to try it herself first, then ask a friend for help and if she is still struggling ask a teacher.
Introduction/plenary tasks		Main activities		Resources/ Key Vocabulary	Assessment for Learning (strategies and opportunities)
Introduction Children will be reminded of the 3D shapes they encountered on 12/11 – Mefus and Orennau. Afalau and Lemonau will be introduced to the 3D shapes and their properties – children will be encouraged to feel the items and they will each have a chance to describe the shape they are holding to the rest of the group. Link to supermarket theme – shapes of packaging found in the supermarket. Explain that 3D shapes are all around us. How can we identify what shape packaging might be? e.g. we can look at it's properties and then decide which 3D shape it is. Introduce children to the task.		<u>Trainee focused task</u> (purpose, outline of trainee's role and children's learning): To be able to recognise 3D shapes in our environment. Children will be required to sort the packaging into their shapes e.g. cuboids, cylinders, cones, triangular prism (pyramid) etc. This will be a physical activity where we sort packaging into hoops. Each child will individually sort one item into the correct category. <i>The children will be encouraged to ask their peers for help if they are unsure.</i> Photographs will be taken for evidence. The children will then replicate this activity in their books. Each child will have a set of images, which they will cut and stick, into categories. Their page will be split into four sections. Encourage the children to use the shapes to help them categorise the packaging. As Afalau and Lemonau haven't yet had a session on 3D shapes, this task will not be differentiated. Extension task: Sequencing – complete the sequence of 3D shapes (either complete the worksheet or recreate the pattern using physical shapes). <u>Additional adult tasks</u> (purpose, outline of additional adults' role and children's learning): Class teacher planning work for the remaning groups. <u>Independent learning opportunities:</u> N/A		3D shapes. - Hoops. - Scissors. - Glue. - Packaging e.g. cereal boxes, pringles tubes, square tissue boxes etc. - Worksheets.	Observe the children during the activity when they sort the packaging into the hoops – are there any who found it particularly difficult? How did they cope with the completion of the task in their workbooks? Make notes on plan. Questioning throughout the session – why have you placed that item in that category? How do we know that is a cylinder? What are the properties of that particular shape? Allow time for reflection – how difficult did they find the task? Encourage them to draw a happy or sad face at the bottom of their work.
Plenary					
Whiteboard game – describe a shape to the children and they must write down the name of the shape being described e.g. I have 5 corners, 5 faces and 8 edges. What am I? Pyramid. Allow them time to look at the shapes and work out the answer.					
Curriculum coverage (range and skills)					
Mathematical Development – Using Geometry Skills and Using Data Skills.					
Language, Literacy and Communication – Oracy – Developing and Presenting Information and Ideas.					
Literacy (LNF)				Numeracy (LNF)	
Share activities and information to complete a task.				N/A – Mathematics session.	
DCF		Thinking		ESDGC	YCC
IPads will be used to photograph the sorting activity – these can then be used for evidence in the children books. Maybe allow the children to take a photograph of what is being done?		Children are required to recall previous information to help them complete the task.			Children are encouraged to count the corners, edges and faces in Welsh if they feel confident enough to do so

Appendix 3: An example of a letter produced over a series of lessons (Address blanked)

Appendix 4: Lesson plan for a Religious Education lesson

Name of Trainee: Rachel O'Sullivan		Session ref: 12/12/18 and 13/12/18 1:00-2:00 and 9:00-10:00.		Date: 12/12/18 and 13/12/18		Class: Year 1/2		Cynllun Ffocws y Cyfnod Sylfaen 2d
Targed(au) Hyfforddi Personol - Use mini plenaries to reinforce success criteria. - Keep using incidental Welsh. - Continue to develop behaviour management strategies.		Number of learners: 16 each session		Age: 5 – 7 years				
Learning objectives/intentions: Recall and retell narratives and information from texts with some details.		Success Criteria - I can retell the Christmas story. - I can sequence the Christmas story and explain what happened.		Meeting learners' needs:		KB, MS, AW, IC, JR, TH will be encouraged to use reading strategies when reading the sentences they're going to copy into their books.		
Introduction/plenary tasks		Main activities				Resources/ Key Vocabulary		Assessment for Learning (strategies and opportunities)
Introduction Introduce the lesson to the children – read the interactive story of Christmas to the children. Use questioning to check their understanding of the story – Who told Mary that she was going to have a baby? Who came to see Baby Jesus? Where was Baby Jesus born? Etc. Explain to the children that they will be sequencing the story using pictures. (Both groups)		Trainee focused task (purpose, outline of trainee's role and children's learning): To understand the Christmas story. (Children will separate into their groups) Explain that the children will be cutting out the images from the story, then sticking them into their books in the correct order. If the children are struggling, suggest to them to go over the story in their head e.g. what happened first? Give them some clues e.g. was baby Jesus born first? or did Angel Gabriel visit Mary and tell her she would have a son? Once the children have sequenced the images, encourage them to write a sentence underneath of what is happening in the image e.g. Angel Gabriel told the Shepherds that the son of God had been born in Bethlehem. Differentiation: Afalau/Lemonau – they will have 6 images from the Christmas story to sequence. They will spread these out across a double page in their workbooks. Once completed, they will use the word mat to write their own sentences about what is happening in each image (Afalau). Lemonau, will copy the sentences from the sheet into their books, under the correct image. Mefus/Orennau – they will have 4 images from the Christmas story to sequence. They will spread these out across a double page in their workbooks. Once completed, they will copy the sentences from the sheet into their books, under the correct image. Additional adult tasks (purpose, outline of additional adults' role and children's learning): To support learners during the session – class teacher. Will complete the same task as the trainee but with one group. LSOs – making Christmas cards. Independent learning opportunities: N/A.				- Christmas story power point. - Images of the story to sequence. - Sentences for the children to copy. - Word mat for Afalau. - Jesus. - Mary. - Joseph. - Angel Gabriel. - Bethlehem. - Three Wise Men. - Shepherds. - Star.		Thumbs up, thumbs down – ask the children to show how they feel about the lesson. If they understand what they have learnt, they put their thumbs up. If they didn't understand, they put their thumbs down. If they are unsure, they put their thumb in the middle. Questioning in the introduction to check the children's understanding of the Christmas story.
Plenary Quick fire questions round – go around the children asking them questions e.g. Who is the son of God? Who followed the star in the sky? Pause the lesson and reflect on a good piece of work being completed. Curriculum coverage (range and skills) Language, Literacy and Communication Skills – Organising ideas and information – Locating, selecting and using information.								
Literacy (LNF) Orennau – Apply the following the strategies with increasing independence: phonic strategies, recognition of high frequency words, context clues, graphic and syntactic clues and self-correction (Year 1 skill). Sequence content correctly (year 1 skill).						Numeracy (LNF)		
Apply the following the strategies with increasing independence to familiar and unfamiliar texts: phonic strategies, recognition of high frequency words, context clues, graphic and syntactic clues and self-correction (Year 2 skill).								
DCF Interactive story – power point.		Thinking The children are required to use their knowledge of the Christmas story to sequence the images.				ESDGC		YCC