



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

APPENDIX GA36c

LEVEL 6 SPECIFICATION

ASSESSMENT

Student name:	Andrew Morgan	Student number:	ID 1700438
Programme:	Primary		
Module:	Learning and Teaching in the Primary School		
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Lecturer:	Rachel Wallis	Internal Verifier:	Rachel Wallis
Assignment Title:	A critical analysis of the relationship between teacher subject knowledge and effective learning and teaching in the primary school	Word count (or equivalent):	4, 000 words for written assignment with 1, 000 words equivalent for appendices
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Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

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

Submission Date: 11/01/2019

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Introduction

This piece of writing has the intention of synthesising, evaluating and analysing key research pieces in the area of teacher knowledge and its impact on teaching and learning in the primary school. Firstly, the literature will be explored through multiple strands of Shulman's research of knowledge, as well as referencing other critical views and theories. Secondly, the literature debated in section one will be applied to my time on PTE and aims to demonstrate the impact of key concepts in my own practice as a primary school teacher. The conclusion will include critical reflections of the literature and the relationship to my practice, and using both conclusions to inform next steps for personal development.

The context of the assignment is written from a 35 day placement in a small, rural Welsh primary school. The school has an above average percentage of Free School Meals when compared to national averages. Additionally, there are around 25% of children who receive support through statements and the school action system. Specifically, the PTE placement took place in a small reception class made up of seventeen students - ten male and seven female. Most children were aged four, with only a handful of pupils aged five. The ability levels within the class varied and were quite subject specific with some children meeting expectations in literacy, but behind on their mathematics and vice-versa. There was one statemented ASD child in the class who was part time and had no support, but all adults within the area collaborated to ensure his wellbeing and participation. The class had one teacher and a teaching assistant in the afternoon (morning teaching assistant absent on maternity), as well as a college student on a Monday and Tuesday. For the purposes of safeguarding and anonymity, the school will be referred to as School X with names and identities also being anonymised ([BERA], 2018).

A Consideration of the Literature

The role of a teacher is varied and constantly changing, but ultimately they are the essential factor in facilitating effective learning experiences (Shin, 2014; Song, 2016). 'Facilitating learning' is a key point that is firmly rooted in the constructivist approach to learning which vows that personal exploration and transformation is the best way to learn (Holt-Reynolds, 2000). Holt-Reynolds (2000, p. 21) goes on to say that "learning must be mediated by discourse rather than transferred by teacher talk", an approach that has only started to be used the last few years. Traditional methods of teaching followed a uniformed set of rules with learners gaining knowledge through listening to the adults didactic dialogue. The shift to a pupil-centred approach to learning is something that Donaldson (2015) is introducing in the curriculum reform to create more independent, creative and ambitious learners. Such traits will flourish when children have the opportunities to self explore and find personable relationships in what they are learning. However, to facilitate learning and provide these opportunities, teachers must have extensive knowledge to guide children. This is a personal view that is underpinned by much extensive research. Vygotsky (1978) likened a more knowledgeable other to provide crucial scaffolding that children need to discover and learn new concepts and ideas, something that is emergent in current teacher practice (Pritchard, 2009). A study by Agathangelou *et al.*, (2016) found a curvilinear relationship between teacher knowledge and test results of fifth graders, further evidencing the impact teacher CK has on learning. Studies by Hill *et al.*, (2008) and Baumert *et al.*, (2010) provide deeper evidence that higher levels of CK possessed by a teacher, has higher developmental impact on student learning when compared to average or lower CK. Ball (1991, p. 5) and, despite the age of the paper, held a seminal view that "teachers cannot help children learn things they themselves do not understand". Concluding the argument that a teachers CK is crucial to help children learn. Learning could be assessed through the children's ability to: teach others, apply in multiple scenarios and evidence of using new knowledge to inform decision making (Petrie, 1986). If a child can demonstrate these, then learning, not imitation or recall, has occurred. In addition to the impact high CK has on students learning.

Dierking & Fox's (2013) qualitative study found that it also has four effects on teachers themselves: Effects power and confidence; Increases empowerment; Increased sense of power; and disempowerment of actions. Whilst the researchers agree they overlap, they highlighted supporting studies of the positive effects CK has on confidence, empowerment and feeling of self-worth. The last point relates to the ethos of the school with the study identifying a negative atmosphere that uncooperative teachers create, ultimately having a draining impact on even the most positive of teachers. Friedrichsen *et al.*, (2009) proposed three sources of adding to CK: personal school experiences, CPD courses and teaching experiences. Critically, only one of the three is a deliberate effort by the learner to construct new, or add to pre-existing knowledge. Tynjälä (2008) would categorise the two experience sources as non-intentionalist and highly contextual, as where CPD is a formal approach to learning that carries specific learning outcomes and/or qualifications. PCK is addressed and taught during teacher training and the base this forms is then developed over time through experiential learning and formal development opportunities (Blömeke *et al.*, 2008). This PCK works in hand with CK to produce effective teaching, however, Shulman (1987) draws attention to the importance of how that CK is delivered, is the true reflection of the abilities of a teacher. If a teacher can represent, interpret and adapt the content in a way that learners can understand and receive, then they will be more effective than someone who simply has high levels of CK but poor PCK skills. This high CK and wavering PCK skills labels the teacher as a pedagogue; someone who has extensive knowledge but not the skills required to transform the information into multiple manners and design effective learning experiences. Inferring from this literature, one would conclude that teachers need good PCK and CK, but also need a passion for the subject. Even if this is a false sense of enjoyment and passion, children respond to it and so it is vital that the teacher demonstrates excitement and a want to learn.

In relation to Rowlands *et al.*, (2003) case study of Naomi, there is evidence of concrete CK accompanied with some appropriate delivery. In the case, Stuart, a learner, demonstrated a different way of working out the sum that Naomi had asked. This showed initiative and problem solving preferences from the child that Naomi

briefly acknowledged but did not expand on. The quote “I know an even better way” demonstrates lack of scope within Naomi’s teaching. Perhaps her didactic response was because she wanted all children to follow a specific process, or it covered a lack of conceptual understanding on her behalf. To improve her practice, Naomi should have stopped teacher talk and followed the contingency guideline of TKQ by deviating and going on the journey of the child’s interpretation and learning. Stuart, unbeknown to Naomi could have been demonstrating mastery, showing conceptualisation and problem solving skills through. Evidencing that mathematics is not simply finding the right answer (Matthews & Foster, 2006). Rather, it is concerned with finding multiple solutions, only this can denote mastery. Additionally, Naomi missed the opportunity for Stuart to show his peers an alternative method in which they might find easier to grasp and apply. It also opposes the constructivist theory of allowing children to discover their own ways of learning and reverts to older teaching methods. By children problem solving and finding personal ways to work answers out, it shows a deeper understanding and will increase confidence and attitude to learning (Anghelache, 2013). If children are happy and excited to problem solve, the attitude to learning will provide a solid foundation for learning to happen and this must be encouraged and portrayed by teachers. Despite the criticism, Naomi demonstrated depth of CK through the ordering of the numbers in the mental starter. The order allowed children to revisit common bonds and flip them, making connections and relationships between the numbers i.e. $2 + 8 = 10$, $8 + 2 = 10$. Conclusively, Naomi has an A* mathematics GCSE grade so her knowledge is unequivocally of a high calibre. This leads to questions about Naomi’s PCK and her somewhat simple method of delivery. Further considerations need to address the critical language being used in the session and ensuring activities relate to the chosen procedure of subtraction i.e. take away, more than, difference and other linguistic terms. Naomi should also allow go with the children’s explanations and demonstrations, making relevant relationships to her own methods and explaining them further than the child’s capability if needed. The onus of children steering learning fits into Donaldson’s (2015) style of approach in developing the new curriculum in Wales.

Models of Knowledge

There are many approaches to teachers knowledge and understanding that have been proposed. Much of the research stemmed from Shulman's (1986) initial exploration of pedagogical knowledge and subject matter knowledge within the mathematical teaching of ITT students. This seminal piece of work by Shulman was recognised and used by the University of Cambridge (2002) to inform the creation of The Knowledge Quartet (TKQ). Essentially, this was their attempt at conceptualising the tools we use to analyse what content knowledge looks like when delivered in the classroom (see Figure 1). The framework is a result of Cambridge University identifying a problem in what lesson observations focused on. Their concerns coincided with research from Brown *et al.*, (1999) and identified that the focus was on organisational aspects and expected core competencies of classroom management, and that there was not enough detail in assessing the content of the lesson. The four units, compiled from eighteen broader categories, contain a progressive linearity of how we take and understand knowledge, right through to responding to unplanned discussions. The 'Foundation' stage relates largely to understanding and contains three pillars: knowledge, belief and understanding (Thwaites *et al.*, 2005) that are concerned with how children learn and the practitioners breadth and depth of content knowledge. Once this base is set, the 'Transformation' is about being able to model, explain and choose a method of delivery. 'Connection' is building on previous knowledge and progressions, before having a 'Contingency' that concerns itself with the practitioner being able to respond to deviations and children's interpretations and inquisitivities. Stolloff (2009) compiled TKQ into three key points: How examples are used and explained; Organisation of mathematical knowledge; Teacher actions in response to planned and unplanned scenarios.

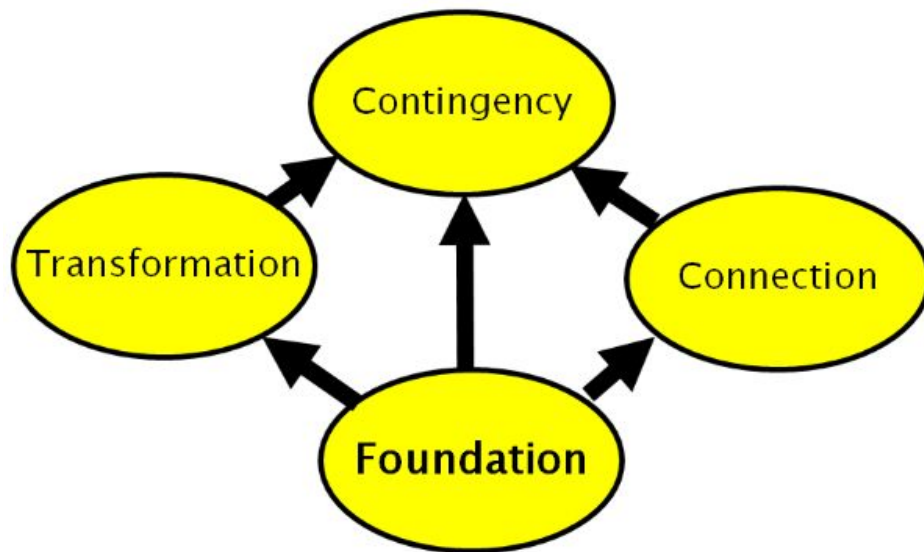


Figure 1. University of Cambridge - The Knowledge Quartet (2002).

Within educational research, TKQ sees consistent praise from a range of researchers, even sixteen years after conception, for the purposeful, analytical and supportive framework it provides (Ünver, 2018; Liston, 2015; Turner, 2012). Thwaites *et al.*, (2011) supports the TKQs ability to accurately map and code whole mathematics lessons with ease, demonstrating its potential of analysis. This study, whilst positive in its support for TKQ, was conducted in a secondary context where content is of a higher level when compared to primary. Interestingly, Rowlands (2013) draws attention to the high levels of complexity associated with mathematics, leading one to question ‘how accurately can this be assessed?’; particularly with a rigid framework of analysis such as TKQ.

Critically, many researchers support the effectiveness of TKQ but there are still limitations in the fact that it is based solely on the teaching of mathematics in a secondary context. This one-dimensionality of it cannot quantify the effectiveness of a teacher as a whole and whilst there has been research in the primary sector, further research is needed to concrete its validity it has in the secondary sector. The independence of TKQ is also a concern as teaching is not a standalone, one dimensional process. There are multiple facets that influence teaching that TKQ fails to acknowledge. Agreed, it is a good framework for teacher knowledge, but this on its own does not constitute good teaching. Without effective core competencies in

management and organisation, the knowledge will not be allowed to come to fruition and those all important learning experiences will not achieve their full potential. Whilst TKQ has a clear focus on assessing teacher knowledge, this is just a strand of a very complex profession. Therefore, there are many other proposals of assessing teacher effectiveness (Pianta *et al.*, 2008; Rosenshine, 2010; Creemers & Kyriakides, 2006), but none specifically relate to the knowledge of the teacher and its impact on students learning and rather focus on other areas of teacher skills. The Knowledge Base provided by Shulman (1987) compiles a list of seven categories that form the basis of any teacher knowledge. This should, with supporting frameworks and observation forms, be referred to when assessing the strength of CK. If used in conjunction with TKQ framework, this list would provide a comprehensive checklist of how to identify CK, whilst incorporating core competencies such as organisation, materials and management. Another Shulman (1987) proposal is the Model of Pedagogical Reasons and Action - a five step process to teaching. The model shares similarities with TKQ and is based upon learning having a 'text' as a stimulus, with the role of the teacher being able to use PCK skills to transform it into teaching material. This, in addition to the Knowledge Base, can be partnered with TKQ to assess teachers CK and PCK knowledge.

To conclude the section, there is overwhelming support that high levels of CK and PCK have a positive impact on not only the learners, but the the teachers themselves. Different approaches were highlighted and through conclusion of CK and PCK having a profound effect on learning, methods of improving those were addressed using proposals from research. Assessing these two strands divides the literature with Mihaly (2013) proposing that there is no accurate way to observe and grade effectiveness of teachers as a whole. With current tools only offering 60% chance of accurate assessment. Gitomer (2009) also suggests that measuring teacher effectiveness across the board is inaccurate and misleading. Despite this, It is clear that the focus of teacher analysis is funnelling towards identifying actual content and its delivery as opposed to supporting aspects of teaching such as management and organisation. TKQ, with more breadth of research could prove the go to source for analysis and observation but at the moment has limitations.

However, there is no question about the information it provides about a teachers PCK and CK, in which this should be used perform self-reflection by the teacher. Self-reflection is vitally important to improve, and use of frameworks and observations to inform this will guide a teacher to improvement (Rowland, 2013). Observers must also be aware of the impact on learners, something that these frameworks cannot measure. Suggestions for looking at evidence of learning will reveal a large part of the effectiveness of a teacher and aligns to studies with data showing correlations between CK/PCK and learning. Next steps can then be taken to identify gaps in knowledge that deliberate learning will help fill. Cochran-Smith & Zeichner (2005) believe it is possible to analyse teacher knowledge but there must be a comprehensive framework that allows all considerations to be taken into place. It has been noted about the relationships that different models could have to create this, but one must question whether it is actually possible to holistically assess teacher effectiveness. If it is possible, these assessments will still be subjective so the validity would still be questioned.

Analysis and Evaluation

During my time on PTE in a reception class, there was not a heightened emphasis on my CK per se as the level, for an adult, doesn't require much depth of CK; more emphasis on breadth and transformation. Crucially however, the understanding of pedagogy is critical in the process of delivering high quality teaching and learning. In saying this, my CK of St. David was challenged as I hadn't had any previous experience of teaching this content, nor did I fully understand the story. Although I wasn't teaching the topic lessons, I did create literacy lessons than integrated St David because of the timetable being squeezed and there being no time for topic to be taught as a whole lesson. It was important that I understood the story and background of St David so I decided to undertake personal research into the topic by using my own time to read texts, as well as in the early weeks, joining the class teacher in his explanations to the class. This was invaluable as it demonstrated not only the story, but the pedagogical aspect of how to deliver the story to make it

interesting for children. My own pedagogical skills were rapidly being developed so the CK of the topic was a priority so that I too could have a significant impact on student achievement with this particular topic (Metzler & Woessmann, 2010). The lack of understanding to begin with needed to be addressed or purposeful teaching could not occur because of the lack of basic and conceptual understanding on my behalf (Fordham *et al.*, 2012).

The lesson in discussion involved recapping knowledge of St David and relating this to new information about Wales (see appendix 1). The outcome was to produce a product, develop a sense of belonging in their Welsh identity and write words and phrases. Creating this lesson challenged my creativity and knowledge of the foundation phase curriculum. These were developed through the curriculum areas of LLC, PSWCD and CD, as well as fitting nicely into the ethically informed citizens and enterprising and creative contributors outlined in Donaldson's (2015) new curriculum proposal. There was also a heavy focus on YCC by understanding emblems and symbols of Wales, as well as recalling knowledge of St David. The four chosen symbols (see appendix 1) required me to again sanction personal research into them as I had no concrete knowledge of the purpose and meaning behind them. My research into these symbols returned lots of information that I deemed inaccessible or not relevant to reception aged children. This then provided an additional challenge of my PCK as to how I was going to deliver this to such young children. I had a basic understanding of the topic but I would not say it was conceptual or particularly in depth. As a trainee with increasing experience and confidence, the pedagogical aspect was less of a worry although if the CK was not there, it would prove a very large worry. Through learning about the topic myself, my confidence went from very little to moderately confident as the content I learned was basic and sufficient enough to teach at reception level.

In relation to Shulman's (1987) Knowledge Base, throughout the PTE there was growing knowledge of educational needs and contexts of learners, but gaps in content knowledge. If I was required to teach this at a higher level, in KS2 for example, then I would have to develop a deeper understanding of the topic. This

relates to the contingency stage of TKQ. At this present time I would not be able to respond to questions or queries from children on information that is not essential. A critical issue would then arise as the lack of subject knowledge would have a negative impact on the pedagogical strategies and instructional practice (Kleickmann *et al.*, 2013). The instructional issues relate to stage three of Shulman's (1987) model and this, in time, would have a detrimental effect on student attainment.

Wider examples from PTE

There were further learning experiences for myself during PTE. Not specifically around CK, but tools used to aid understanding and manipulatives that provide alternative perspectives. Numicon in maths was something I had not used before in teaching so whilst I understood and could transform the mathematical content and terminology to make it accessible for the children, I had to learn how to use Numicon to aid my delivery. This was a nice addition to my PCK and provided a challenge to my true understanding of the content. Asking me can I use this tool to provide a learning experience that I would not have chosen to use, a choice made through previous experience and preferences. An area that the children's knowledge surpassed mine was during phonics lessons. Before my PTE started, children had extensive, small group phonics inputs where they learnt all of the actions via Jolly Phonics. Again, this was something that I had not experienced so had to learn in action. Upon reflection, I do not think that me not knowing the actions hindered any learning but, especially in the beginning, an over reliance on children to demonstrate the actions meant that I personally could not correct children's actions. Positively, this was an opportunity to use my supporting adult to help as she was the one who had delivered the small group inputs previously. This learning through experience and non-intentionalist way, was a step towards CPD and improving my content knowledge. Towards the end of placement and after teaching many phonics lessons, my knowledge of the actions was concrete but even then, this was only used in a supportive role to learning. The lesson objectives and plans were created through my knowledge of phonics teaching that had been learnt through university sessions and in previous roles as a learning support assistant.

A specific example from PTE

This subsection will relate TKQ to a specific event that happened during a mathematical development lesson that focussed on addition of single digit numbers up to 10 (see appendix 2). After weeks of hard work on helping children to understand numbers and develop a concrete number sense, I decided to test their number knowledge by introducing addition. Their progressively developed understanding of numbers and relationships allowed children to gradually explore numbers in a variety of contexts and forms (Howden, 1989). To introduce this to children, a support mat (see appendix 3) was created and the manipulatives of Numicon were used in addition to pictorial and abstract forms that were used during the input. The mat was my way of transforming the concept of addition into something chunked up and visual. The input powerpoint (see appendix 4) showed addition in many varieties and used appropriate images to engage children and allow them to relate to it. Language was discussed and the desired terms were modelled, demonstrating my foundation knowledge of the content and how children learn. I feel their number sense and understanding of Numicon allowed all children to connect to the concept, and it allowed higher achieving students to progress learning into covering Year 1 expectations. Stage four, the contingency stage is where limitations may have occurred in highly effective teaching and learning. The focus tasks only used Numicon and didn't allow for children to use alternative manipulatives to support them. Children were permitted, and did, use their fingers to aid them but I was also insistent on them using the whole class approach of using Numicon. Something that had arisen, and showed a flaw in my planning and connections was how the children used the mat. The intended use was for them to put a numicon shape in the first two boxes and then find another set of identical shapes to build and create the answer. The process was modelled through ten whole class examples during the input. However, non-explicit direction and instruction led children to use it how they felt most appropriate. This was to put two shapes in the boxes and then read them before putting them together. Totally disregarding the answer box. I chose to deviate the approach and keep the process to what the children naturally did, something that my CK allowed me to do.

Conclusively, during my time on PTE my CK was not extensively challenged although there were evident gaps, particularly in the topic work of St David. Incidentally, the challenge to my PCK was more relevant across the board of teaching but it was noted that my CK would need to be vastly broadened and conceptually understood in order to achieve effective teaching and learning in higher year groups. The importance of the contingency stage of TKQ was highlighted as this is a stage where your CK is challenged and is subjective to your confidence in deviating and following childrens desires to explore and apply.

Conclusion

It is clear that within the literature there is verifiable support for the positive impact that teacher CK and PCK has on levels of children's learning and subsequent attainment. Through analysis of the literature, there was evidence of good CK having a positive impact on teachers themselves with section one also stating how it can be improved. Where there becomes more contention in the literature is with regards to how teacher knowledge is assessed, with this evident through the opposition of current observation methods that focus too much on teachers support skills. Three models were identified that shifted the focus from supporting skills to content focus. Strengths and limitations were identified, as well as relationships being identified and proposed. The discussion highlighting my PTE experiences demonstrated that TKQ can in fact be used as a framework to analysis of teaching and more importantly, it can be used as a reflective tool for practitioners. The reflective capabilities of the framework was highlighted through the personal comprehension of a maths activity that I had delivered and, with support from two of Shulman's (1986) models, allowed for the outcome of a comprehensive reflection process. Personal points for development were highlighted with regards to CK. Whilst CK was not a huge influence during my time teaching reception, it is clear that as I am to progress through the years of school, my CK will need to improve across the board. PTE has made me aware of the level of understanding required to not only be confident to deliver content, but to transform that information into chunks for children to learn. As PTE continues, a primary focus of mine will be to think carefully of how the

supporting resources may be used by children. As highlighted, the intended purpose of a resource was not how the children interpreted it but in turn, they perhaps found a better way to use it. Next steps will also include to continue to develop PCK skills as well as developing a secure conceptual understanding of the topic that I will be teaching during my next PTE in Year 3.

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Appendices

Appendix 1.

Name of Trainee: Andrew Morgan Session ref: LLC2 Date: 28 & 30/11/18 Class: Reception		Cynllun Ffocws y Cyfnod Sylfaen 2d	
Targed(au) Hyfforddi Personol S3.2.2. They monitor and assess as they teach, giving immediate and constructive feedback to support learners as they progress. They involve learners in reflecting on, evaluating and improving their own performance.		Number of learners: 17 Age: 4-5	
Learning Intentions: Create a product using national symbols and phrases.	Success Criteria: <u>Yellow and Black</u> I can say what the symbols are. I can write 'Y Ddraig Coch' with support. <u>Red and Green</u> I can identify and describe the symbols. I can write 'Y Ddraig Coch' independently.	Meeting learners' needs: Yellow and Black groups have a yellow penned letters for them to trace. Red and Green groups are independently writing the title copying the practitioners model. Child 17 - 1:1 yellow task.	
Introduction/plenary tasks <u>Wednesday Input</u> - 10 mins <u>powerpoint.</u> Show them the Welsh flag - think, pair, share with a partner what they see. Anything special? colours? Can they propose suggestions for why the colours and dragon have been used? Cover Myths and Legends - briefly explain definitions of them and go through examples of two famous myths - Beddgelert and the Ice town. Use external ppt to show the latter/most famous one. Explain the history of the Welsh dragon and introduce term 'Y Ddraig Coch' - what does this mean do you think? Talk about St David - what can children recall from previous learning about St David: who was he? what did he do? where is he from? Explain leek and daffodils, have they seen them around? Go through example of Bunting.	Main activities 15 minutes <u>Red & Green Groups</u> Copying the word 'Y Ddraig Coch' using the practitioners example. They will then stick on pictures of the Welsh Dragon, a leek and daffodil; key symbols of Wales. They will colour in the flag of St Davids and dragon, promoting their pencil grip and control. Children will label the pictures underneath, writing the words modelled by the practitioner. <u>Yellow & Black Groups</u> Children will write over the scaffolded letters spelling 'Y Ddraig Coch'. Children will then stick on the pictures of the daffodil, leek, dragon and St Davids flag. Children will colour the flag of St Davids in, identifying the correct colours and being encouraged to neatly colour in. Promoting pencil grip and control.	Resources/ Key Vocabulary <u>Resources</u> pencils colouring pencils bunting pictures of - leek, daffodil, st david flag and dragon. <u>Vocabulary</u> Wales Y Ddraig Coch St Davids Daffodil Leek Flag History National Bunting Purpose Meaning Story	Assessment for Learning (strategies and opportunities) Check pencil grip and control - encourage where necessary. Ask them why they have put the 4 pictures on - what are they? what do they mean? Self assessment tool before they leave the table. Oral feedback scribed by the adult (word for word) and child to choose the correct level.

Friday Input - 10 mins Use the powerpoint for Friday. Recap the 4 national symbols. Can they recall them and describe them? Look for key vocabulary that shows a deeper understanding. Can they expand on the flag of St David to telling me a little bit about him? Star question - Who can tell me what 'Y Ddraig Coch' is in English? Commence quiz of 7 questions based on last lessons content. Call out the options and then ask for hands up for final choice. Plenary Verbal description of the four symbols. HA - can they recall at least one fact about each symbol? Self assessment to also be completed. Child draws a mouth on the emoji i.e. smile for easy/enjoyed, line for middle and sad for hard. Child to give verbal feedback on one good thing and one thing that could make the work better. Adult to scribe these in relevant box.			
Curriculum coverage (range and skills) Wt MPR 5 - Write words and phrases. PSWC MSD 5 - Raise questions about why some things are special. PSWC SD9 - Develop a positive self-image and a sense of belonging and have an understanding of their own Welsh identity. CD ACD7 - Design and make simple products and mechanisms.			
Literacy (LNF) Speak audibly. Sharing ideas with others.		Numeracy (LNF) 2D shapes on the bunting.	
DCF	Thinking Memory recall of previous knowledge.	ESDGC	YCC Learning about St David and the Welsh Flag. Writing and understanding 'Y Ddraig Coch'. Furthering understanding of St David's story. Discovering the history of the Welsh flag. Myths and Legends of Wales. Identifying symbolism of Wales i.e. leeks and daffodils.



The Red Dragon

Y Ddraig Coch

The flag has the red dragon of Cadwaladr, King of Gwynedd along with the Tudor colours of green and white. The dragon was worn during lots of fighting during the Roman times and was the symbol chosen to show the power and strength of Welsh Kings. Queen Elizabeth made it the official recognised as the Welsh national flag in 1959.





St David's Flag

Baner Dewi Sant

The flag of Saint David, a yellow cross on a black field, and is always flown on St. David's Day. It is used to remember him. Some people use this flag instead of Y Ddraig Goch because they don't like the Welsh flag.




National Symbols



The leek is the national emblem of Wales. According to legend, Saint David, ordered his Welsh soldiers to identify themselves by wearing the leek on their helmets in an ancient battle against the Saxons that took place in a leek field. It is still worn on St David's Day each March 1.

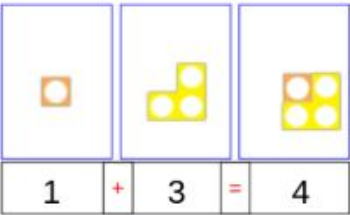


David Lloyd George, the only Welsh prime minister, didn't like the leek so chose a daffodil instead. It begins to grow in early spring so they're fully grown for St David's Day on the 1st March.



Appendix 2.

Name of Trainee: Andrew Morgan		Session ref: MD2	Date: 5 & 7/12/18	Class: Reception	Cynllun Ffocws y Cyfnod Sylfaen 2d
S3.3.12: They can provide homework and other out-of-class work which consolidates and extends work carried out in the class and encourages learners to progress independently.		Number of learners: 17	Age: 4-5		
Targed(au) Hyfforddi Personol	LA: Use number facts to 5. HA: Use number facts to 10.	Success Criteria:	LA: I know my numbers to 5. I can make number bonds to 5. HA I know my numbers to 10. I can make number bonds to 10.	Meeting learners' needs:	Square & Rectangles are working at Year 1 level by using numbers up to 10. Triangles and circles are working with number facts up to 5 Child 17 - 1:1 activity in the classroom.
Introduction/plenary tasks	Main activities		Resources/ Key Vocabulary	Assessment for Learning (strategies and opportunities)	
<u>Wednesday Input - 10 mins</u> Counting to 20 warm up. Write a sum on the board - $2 + 2 =$. Can children tell me anything about it? <i>can they read the problem? understand? describe anything? identify key symbols?</i> Place the support mat on the board for children to see. Use the powerpoint to firstly add pictures, then use numbers, then use numicon (today's focus objects). Here, we can add lots of things together. Use children as an example also. Use objects on the powerpoint as well as physical objects - ask a child to get you 2 teddy bears. Ask another to get 1; how many altogether? I have the answer, the combination. Vocab important - focus on add, altogether and add. Number also gets bigger when we add together.	<u>Trainee Focus task - 15 mins.</u> Square, Rectangle LI: Use number facts to 10. Children will choose 2 numicon shapes to add together - these can do any numbers that combine to make max of 10. They will use the support mat to aid their strategy and process (see example below). Children will place their first shape in the first box, their second in the second box and then combine the shapes in the third box to find the answer. Children may be able to write their numbers in the boxes but this is not a necessity at this time. This will come later on. For now, children will focus on using objects. 		<u>Vocab</u> addition add altogether plus make sum more combine bigger two numbers sum <u>Resources</u> Support mat x10 Numicon Teddy Bears Powerpoint iPad for evidence - take photos of children and at least 2 of their completed sheets. These will be placed in a pic collage and the sheets discarded.	Are children understanding that the answer needs to be bigger than the numbers used? Consistent questioning and probing for explanations/reasoning. Check for children using mathematical language during focus groups. Are children responding to various terminology when going through examples - i.e. not getting confused if plus is used instead of add. Can they give examples of number facts i.e. how are they progressing/have they achieved the LI?	

<u>Friday Input - 10 mins</u> Counting to 20 warm up. Recap the support mat to children and identify a couple of examples by using objects, ensuring the majority of answers are less than 5. Recap key vocabulary and the key rule of the number will be bigger when adding. Practise some examples using the support mat and Numicon. Challenge children's knowledge of numbers to 10 by using an interactive mental maths game on the projector - https://www.topmarks.co.uk/maths-games/mental-maths-train	<u>AA Focus task - 15 mins.</u> Square, Rectangle LI: Use number facts to 5. Children will use the support mat and use the numicon to add numbers 1-5. Children will not write the numbers down but instead focus on repetitive practise of smaller numbers that combine to make a maximum number of 5. 		
<u>Plenary</u> Consistently assess level throughout. All: Give them 2 Numicon shapes to add together. Can they process it and choose appropriate method to complete. Self assessment to also be completed. Child will fill the thumb up - if it was easy they colour it all in, if it was hard they colour a little bit in. Child to give verbal feedback on one good thing and one thing that could make the work better. Adult to scribe these in relevant box using child's exact words.			
<u>Curriculum coverage (range and skills)</u> MD - Using Number Skills → Use number facts and relationships → Use number facts to 5.			

MD - Using Number Skills → Calculate using mental and written methods → Combine two groups of objects to find altogether, solve simple problems in a practical situation that involves addition up to 5.

Literacy (LNF)

exchange ideas in one-to-one and small group discussions, e.g. with friends
take part in activities alongside others, with some interaction
begin to sequence words, signs or symbols appropriately

Numeracy (LNF)

select appropriate mathematics and techniques to use
select and use relevant number facts and mental strategies
read and write numbers to at least 10

DCF

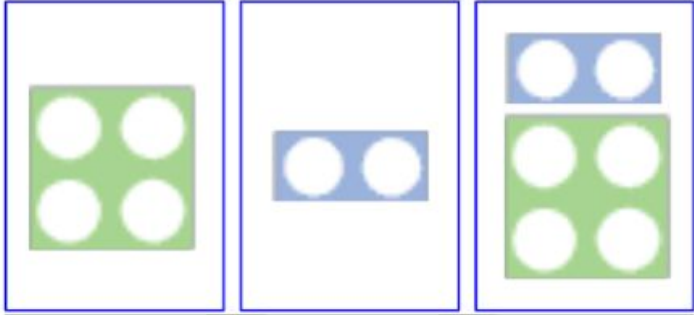
Thinking

Children are recalling previous knowledge.
Children are using calculation strategies.

ESDGC

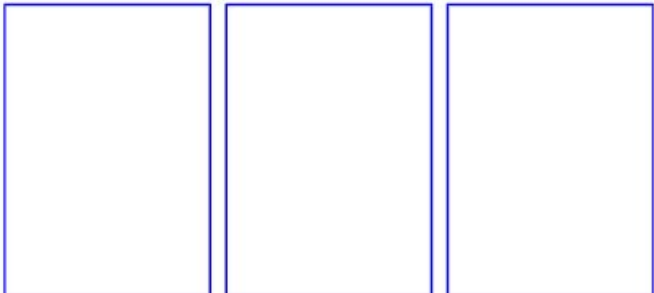
YCC

Appendix 3.



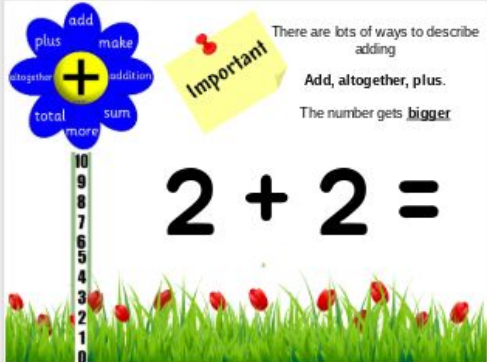
4	+	2	=	6
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7.12.18
L.I: Use number facts to 5

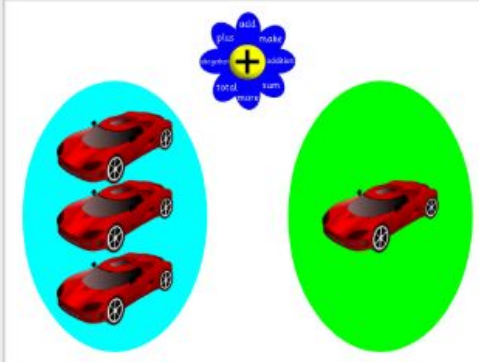


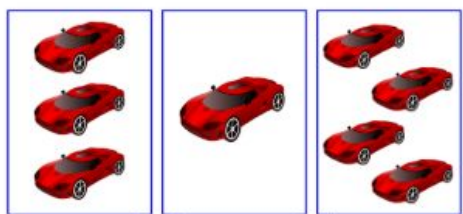
	+		=	
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Appendix 4.



2 + 2 =





3	+	1	=	4
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