

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

Education is an ever-changing discipline, where a teacher's subject knowledge and pedagogy has to be continually challenged and developed. This assignment will analyse and critique the notion of teacher subject knowledge and how this impacts effective learning and teaching within a primary classroom. As an educator, especially in Wales at the moment, we must be aware of developments within the curriculum, for example: Graeme Donaldson's introduction of new key areas of learning (Donaldson, 2015).

In compliance with BERA (2011), I have made ethical decisions to withhold the name of the school from this essay. Furthermore, to keep anonymity I shall withhold names of staff, pupils and shall refer to the school as School 'Z'. School 'Z' has a large intake of students within the local Swansea area - 514 to be exact, aged 3 – 11. 34.3% of pupils within the school have English as an additional language. This detailed information has been taken from the 'My Local School Wales' website. School 'Z' was a faith school, therefore the implications of working in a faith school were considered during my teaching. Scott, S and McNeish, D (2012) argue that in a faith school education must follow a spiritual – value-based approach. I kept this in mind during teaching and day to day routine as the children followed the faith of the school. During the placement I was placed in a Year 2 class of 32 pupils, aged 6 -7 and was supported by one general teaching assistant and a one to one teaching assistant. Consequently, I shall reflect on how subject knowledge and pedagogical knowledge impacted my teaching experience.

Critique of literature:

Knowledge is a foundation block in becoming an effective teacher within a primary setting, as Griggs (2010) argues that knowledge is generated from an individual experience. Without knowledge, the main focus of teaching is lost, which is to educate the next generation and help them navigate the modern world. Before people can be accepted onto a course which is designed to train teachers, they must undergo testing first to see if they have the base line of knowledge within the core subjects. The UWTSD website highlights this test for literacy and numeracy foundation skill tests. Thus, idea that subject knowledge leads to effective teaching is explicit in the first instance, as it is only their understanding within the core subjects that are tested – not the theory behind child development. In support, an educator must have a strong knowledge base, however they must be able to understand the workings of a classroom and attain updated and strong pedagogical content knowledge to provide an inspirational setting for learning. Once a trainee is accepted onto a course, they are then immediately immersed in the theory of child development – thus it is instantaneously recognisable that both these knowledge strands must play a fundamental role in creating an effective learning and teaching environment. This is evident in Shulman 1986, where he presents the view that pedagogical content knowledge and subject knowledge needs to blend together. Thus, as a practitioner, the need to understand the theory behind the classroom and to have a strong knowledge base is paramount. Cremin and Arthur (2014) put subject knowledge at the top of their list of need to know knowledge for a primary teacher. Consequently, subject knowledge plays a pivotal role in the primary classroom, especially as the primary teacher needs to be strong in all areas of lessons taught.

Matheson (2015) argues that a student's skills develop with the correct teaching and interventions. Therefore, the teacher has immediate impact on the child's learning, for they are the individual who is going to develop skills and put in place correct interventions. If the teacher is lacking in understanding, then the student may suffer in the long term. The notion of learning must be looked at, and how acquisition of learning takes place. If the practitioner does not understand how children acquire knowledge, then they shall be unsuccessful in educating them. Griggs (2010) argues that as a practitioner it is imperative to understand the main teaching theories. These are the theories that underpin and inform an educator on how children learn - commonly referred to as pedagogical understanding. One strand of theory focuses on the empirical need for communication between student and teacher for successful learning (Vygotsky, 1978). If a practitioner does not possess this prior pedagogical knowledge, they may not create a successful classroom environment, where two-way communication between teacher and student is lacking. In this instance, prior pedagogical knowledge is imperative in creating an effective learning environment.

The seminal article produced by Shulman in 1987, provoked intrigue and debate surrounding the idea of knowledge base and had conceptualised these into seven different categories. These all focus on different aspects of knowledge, as Griggs (2010) argues that researchers cannot agree on which knowledge is imperative. Thus, there is the need for detailed intrigue into the different areas of knowledge outlined by Shulman. Shulman 1987 highlights that basic skills are tested before teaching. Which presents the notion that more in depth skills should be tested before teaching, to see if the individual already attains specialised content knowledge - instead of common content knowledge, (Ball et al., 2015). In relation to Shulman's categories, Rowland (2009) argues that the categories mentioned, can be linked in relation to the idea of the 'Knowledge Quartet.' The 'Knowledge Quartet' consists of four

M6X02149

Student Number: 1800146

Word Count: 4106

categories: Foundation, Transformation, Connection and Contingency, Rowland (2009).

Through this model the importance of Subject Knowledge is imperative, this is due to the first category being 'Foundation' which relies on the teacher's knowledge of the subject.

However, Begle (1979) rationalised that effectiveness in teaching being directly related to subject knowledge is incorrect. For someone may have a strong understanding of the subject, however, not know the correct way to impart this knowledge to the children. Shulman (1987) argues that it is what the individual takes and develops from this information. Subsequently, what each individual takes from a topic will be different, thus it is effective to have system in place to make sure knowledge is being shared efficiently.

Analysing further into the topic, subject knowledge is vital in creating effective learning, as the educator must be able to provide and encourage the students. Donaldson (2015) argues that strong subject knowledge has been the key for strong learning for years. Thus, subject knowledge has been central for effective teaching for many years. However, Donaldson (2015) goes on further, suggesting that teachers must now inspire students to be independent learners. Therefore, a practitioner, who is undertaking a career in teaching within Wales, must have strong subject knowledge to impart on the students - but must also have the ability to inspire the students to actively take part in their education. Subject knowledge and pedagogical knowledge must be observed, both Shulman and Donaldson have subtle similarities. Shulman (1987), states that it is the teacher's understanding of knowledge. Therefore, the teacher must gain prior understanding of what forms of knowledge there are before teaching. Consequently, they must be able to define the difference between understanding the specific subject knowledge and the pedagogical practices of classroom and behavioural management.

Due to the curriculum changes being implemented by Donaldson within Wales, the new National Literacy and Numeracy Framework and Digital Competency Framework has become pivotal, as it states that the individual teacher shall embed literacy and numeracy into all their work (LNF document 2014). Training practitioners must therefore understand the specific strand of curriculum knowledge which is outlined within Shulman (1987). To place subject knowledge, pedagogical content knowledge and curriculum knowledge into context, the area of Mathematics shall be looked at. Mathematics is one of the core subjects and has been explicitly highlighted within the Donaldson Report. Cooke (2007) concludes that most individuals find mathematics difficult. Therefore, as a practitioner one of the key areas should not be perceived as difficult, but as a positive challenge. Cotton (2013) hypothesis that to teach Maths successfully, the individual must feel confident in that subject. As an educator, even if lacking the confidence, the individual must attempt to gain as much subject knowledge, as Cotton (2013) goes on to argue that subject knowledge eases the fear of teaching. Thus, subject knowledge can be seen as critical in creating an effective teaching environment, as it eases the practitioners worry. Furthermore, as Shulman (1987) theorised, the blend of subject knowledge and pedagogical knowledge is critical. A practitioner must understand educational theories too, in the case of mathematics, the workings of the 'Knowledge Quartet'. Consequently, to be successful in attaining an effective learning environment knowledge and pedagogy must work succinctly together.

Furthermore, the implications of teaching must be considered in creating effective learning and teaching within the primary school. The knowledge of just the subject will not help run an efficient classroom. Every class has different routines and different students that make up the face of that specific learning environment. Educators must now think about the best

M6X02149

Student Number: 1800146

Word Count: 4106

practices to help those with additional needs, as every child now has the right to a thorough and rigid education (UNICEF, 2015). Matheson (2015) highlights that in 2012-13 1.55 million children had SEN in the UK. This is a very large number of students within the schooling system that need extra support, consequently just attaining subject knowledge will not suffice. An educator needs to understand how to support these individual within the classroom and understand how these students learn. Moreover, the social backgrounds of students must be look at, as a member of the school community the teacher must understand what procedures are in place to support students from a disadvantaged background. Research conducted by the National Foundation for Education Research (2013) states that schools consult external bodies about using pupil premium money. A teacher must understand these procedures and the supports which are in place. This is not necessarily seen by students; however, newly qualified teachers must know how to use this to support disadvantaged students within their class. Consequently, to just have subject knowledge will not suffice in teaching effectively - it can be considered the starting block to teaching. However, the educator must understand the other pedagogical factors that will impact on the classroom and how the management of the educational setting will affect what happens within the classroom.

A practitioner must be a reflective individual, as (Dillon, 2011) reasons that being reflective supports our personal development. Therefore, this is vital in relation to effective learning in a classroom, as a practitioner must be able to reflect and positively critique what could be done to improve learning. Loughran (1996) argues that reflection must happen within and after the lesson. It is imperative to be able to self-critique as the lesson is being taught, as it allows the individual to question if the knowledge being provided is valuable for the learner. This could also be used as a marker for the individual to take notice of when there are gaps in

their knowledge, as they could make a reference note of when a student poses a question and they do not know the answer. Schon (1987) argues that knowledge lives in performance. Consequently, a practitioner must constantly reflect on what they are teaching within the lesson, and they can measure their knowledge level in their detail of explanation. If it is inadequate, the individual can further their pedagogy by researching further. As Desimone (2009) highlights, teacher development is a driving force in professional knowledge improvement. Thus, understanding pedagogical practices can help with subject knowledge and in turn create an effective learning environment. One pitfall of self-reflection is that individuals can be too critical and may not give credit where credit is due. Hayes (2003) highlights that after a lesson where they feel they have performed poorly, they will be more critical. Thus, an educator must utilise reflective practises to further their own pedagogy, and to gauge if the subject knowledge they are imparting on the students is useful and succinct.

Consequently, Coe (2014) summarises that defining effective teaching is hard. To simply state that subject knowledge will mean effective teaching, is somewhat general. As Coe (2014) argues further that effective teaching is measured by the achievement of the students. This achievement is ultimately down to the individual teachers, and their combination of understanding of subject, pedagogical and curriculum knowledge. Shulman's research remains seminal, because teaching is an everchanging discipline, however a practitioners subject knowledge and pedagogical knowledge remains at the forefront of teaching new trainees. A teacher must hold acceptable amounts of knowledge, which is tested before starting a course, but then must be taught the theory behind what works within a classroom. As a result, Shulman's (1987) theory on knowledge and its different bases remains at the forefront of the educational world.

PTE Reflection:

Before starting my degree in Wales, I was fascinated by the government's drive for the Welsh language. As the Welsh Government (2017) has the initiative for one million welsh speakers by 2050. The fact that Wales is keeping their language alive and moving forward is a source of inspiration and I myself was looking forward to taking part in this initiative. This excitement to learn can be theorised by Macaro (2005) as he argues that multilinguals far outnumber monolinguals. Thus, to be effective in teaching in Wales; I need to have some degree of multilingualism. Whilst on teaching practice, I was very intent on teaching a lesson focused on the Welsh language. Especially now that the language skills and development are now a part of the recommendations within Donaldson (2015). Iaith Pawb: A National Action Plan for a Bilingual Wales (WAG, 2003) explicitly highlights the Welsh government's plans to have more five-year olds confident in speaking Welsh. Therefore, as a trainee I was interested in developing my own language skills and challenging myself to develop a strong language understanding

Before teaching this, my subject knowledge was weak, as I have only recently started to learn Welsh myself. The notion of subject knowledge as a foundation block creates effective teaching immediately became apparent. The input of the lesson went well as I had rehearsed what information needed to be conveyed and had the support of the LSA. When it came to answering questions that I was unsure about, the LSA had a strong understanding of the Welsh language and supported. Macaro (2005) argues that comprehension of the language is given by the teacher. In this regard, I was able to convey what was going to be taught, however, my knowledge was not secure and in-depth, thus lacking in providing comprehension of the language to the students. Moreover, my anxiety levels were heightened during the focused task when students were asking me questions which went beyond my subject knowledge, and as Alexander (2010) suggests, children want their teachers to know

their stuff – I certainly did not. Due to prior pedagogical knowledge, I linked this to teaching theory, Vygotsky (1978) theorised the notion of a Zone of Proximal Development where it details what the student can do without support and what they can do with it. My students were trying to develop their understanding and further their own knowledge. I felt unsuccessful in supporting them when an educator should be able to. To make this effective teaching and learning I should continually develop my own language skills and further my subject knowledge. Furthermore, one solution to this issue is to select a child who has a strong knowledge of the subject. Hayes (2014) suggests, this child could be the expert that helps others, thus giving them a direct inclusion within their education. Here it becomes apparent that subject knowledge certainly is the foundation block to effective teaching, however, using my knowledge of pedagogical content knowledge; I can use theory to resolves specific issues.

In contrast to my experience in teaching Welsh, I felt more confident in my ability to teach Mathematics. As I was teaching in a year two class, I felt that my subject knowledge was strong, and I would have been able to teach the children successfully. Haylock (2010) summarises that children need a teacher who understands Maths to teach them. Consequently, I deemed myself ready, and able to support as I had the knowledge to support them in this area of learning. As Mathematics focuses on abstract concepts, I tried to use physical, or interactive materials to support them in their learning. With the application of the ‘Knowledge Quartet’ (Rowlands, 2009), I felt that I was successful within the Foundation Phase, as I was secure in my own knowledge and understanding. Furthermore, Haylock (2010) presents us the information that adults have anxiety surrounding mathematics. Therefore, in the fortunate position that I was, I did not want my students to have any fear or

M6X02149

Student Number: 1800146

Word Count: 4106

confusion surrounding mathematics. Thus, I allowed for students to ask as many questions as possible – if this meant it would improve their understanding.

However, this lesson provided a great example of how subject knowledge is not the only important factor in effective teaching and learning. The implications and pedagogical understanding needed to be understood. Coe (2014) ranks pedagogical content knowledge first in his understanding of what makes great teaching. This was evident in one Maths lesson, which was in my first week of teaching. We were undertaking a Kahoot Quiz and one of my students struggled with the format of the quiz and emotionally broke-down. He did not struggle with the information that was provided but with the quiz itself. This is where as educators must understand the implications of what material we are using. Upon reflection, I considered Bloom's Taxonomy (Matheson, 2015) and noticed how the student became distressed during the application phase, where he struggled to apply his prior knowledge in this format. Woolfolk et al. (2008) theorises that individuals take what they want from communication, and not necessarily what was said. To enable this student to not suffer distress the next time, I shall continually clarify what has been asked and how to successfully complete the task. Furthermore, as an educator I shall promote effective classroom talk, as Eke and Lee (2009) claim that student enter the class as good communicators. Thus, if I was to undertake this lesson again, I shall encourage the students to talk to one another - as another student may be able to simplify and clarify the task at hand. As a result, we as teachers, must have strong subject knowledge but be able to link this with excellent pedagogical content knowledge. This blend creates an effective learning environment, where issues which arise can be overcome quickly.

M6X02149

Student Number: 1800146

Word Count: 4106

Reflecting upon my literacy lessons, the notion that subject knowledge is vital for effective teaching has become evident - especially when students asked me to spell out a specific word for them. Hall (2006) conveys the notion of making sure that children understand the alphabetic principle is pivotal – therefore I must too. Phonics has been a weak point in my literacy skill and I sometimes pronounced a letter wrong and was hindering the students in their spelling. Therefore, we as practitioners must make sure that we train ourselves first and have strong knowledge content when teaching children, especially regarding a skill which is one of the most valuable tools for the future – writing and spelling. However, upon reflection, I should have scheduled a session where the students and I went through the sounds of the alphabet. This would have linked to the Cognitive-behaviourist theory, which Matheson (2015) explains that the final stage is shared feedback between teacher and pupil.

Consequently, in my next practice during the foundation phase, I shall ensure that both myself and the students have the same understanding and can work together to create an effective learning environment – one where student and teacher can develop and learn successfully.

Furthermore, Shulman's theory that the blend of subject knowledge and pedagogical knowledge has become apparent upon reflection. I possessed the knowledge to impart on the students but needed to do it within a more creative way. Cremin (2009) argues that there is a necessity to teach literacy creatively otherwise, the topic can become dry. Thus, highlighting to myself that I needed to develop lessons further. To do this, I approached the idea of Sustained Shared Thinking, where Wray (2014) suggests that the child and adult should work together to encourage a skill. Therefore, I approached the strand of oracy within the curriculum and created a wide range of active learning activities. This is evident in my use of drama focused tasks, to develop their communication skills and to get the students actively engaged in the topic. The topic of the literacy sessions was to write an information text

M6X02149

Student Number: 1800146

Word Count: 4106

concerning life in the 1950's. The class teacher and I developed this idea of creative learning further by inviting a guest speaker, where students could develop their collaboration and discussion skills and feel inspired by someone who was present in that time. Griggs (2010) argues that developing articulation and literacy skills creates a well-rounded population. Thus, we used our understanding the curriculum, subject knowledge and pedagogical content to create a stimulating and effective learning environment – one that would have a positive impact on the child's future.

Research is a valuable tool in teaching, if you do not possess the prior knowledge, we as an educator must take the time to develop our own understanding. This was evident in my planning for teaching Religious Education during Judaism week. I had limited knowledge of the religion and I was rather nervous about the delivery. This lacking in content knowledge led to certain anxieties about not being effective in my teacher. However, Kauchak and Eggen (2007), argue that in-depth planning and research can relieve the teacher of anxiety. In this situation, I found myself researching intensely and effectively to ensure that the quality of work and resources would reflect that of an effective practitioner. The 'Knowledge Quartet' theory in Rowland (2009) can be applied cross-curricular here. I understood that I was not secure, or confident with the Foundation Phase of the Quartet, thus, I took the time to develop my understanding to ensure effective learning.

Within my teaching of Religious Education, as I felt it was a sensitive topic I wanted to be as reflective as possible on my subject knowledge and my delivery. Whilst on practice I looked into the theory of experiential play and discovery – an area which is explicitly referenced within the Donaldson Report (2015). Langtree (1997) theorises that giving students first hand experiences develops their understanding. Thus, I planned for the students to actively

make Challah Bread, this would then immerse themselves in a sacred activity within Judaism.

I wished to actively put them in a role where they develop their own feelings and thoughts.

Furthermore, I considered the implications of the Digital Competency Framework in

Donaldson (2015) and encouraged the students to use iPads and laptops to further their own

understanding. Turvey et al. (2014) summarises that we should make effective use of I.C.T

across the curriculum. Thus, spurring my inclusion of I.C.T within Religious Education, to

allow the students to developing their research skills and develop their understanding of the

topic at hand. Consequently, to be an effective teacher, we must develop high quality

researching skills to provide us with expert subject knowledge and pedagogical knowledge.

Furthermore, we must encourage our students to develop strong research skills and encourage

their curiosity in finding more information about a specific topic.

In conclusion, a practitioner must understand the different types of knowledge theorised in

Shulman (1987) and how these knowledge bases impact on the classroom. To be effective in

our teaching and in creating an effective learning environment, we must have a strong blend

of subject knowledge and pedagogical content knowledge. This has become evident within

Donaldson (2015), where there has been a shift from purely subject knowledge focus to a

need of blending the knowledge bases. Building on the review of critical literature, this blend

has become evident within the reflection of my professional teaching experience, as there

were moments where my own subject knowledge was lacking, and my pedagogical

knowledge was too. Richards (2014), argues that to be a primary teacher is challenging due to

the range of knowledge required. Therefore, as an educator we must continually push and

develop our knowledge, Griggs (2015) argues that a successful teacher continually strives in

their professional development. We as practitioners must constantly develop ourselves,

especially practitioners that are training or working within Wales. A Welsh practitioner must

M6X02149

Student Number: 1800146

Word Count: 4106

research and understand the new curriculum that is to be introduced, thus enabling their teaching and learning environment to reflect effective practice.

M6X02149

Student Number: 1800146

Word Count: 4106

References:

Alexander, R. (2010) *Children, Their World, Their Education*, London: Routledge.

Ball, D., Thames, M., Phelps, G. (2008) *Content Knowledge for Teaching: What Makes It Special?* Journal of Teacher Education 2008 59: 389. Sage Publications. Found: <https://www.math.ksu.edu/~bennett/onlinehw/qcenter/ballmkt.pdf> [Accessed 5th Jan. 2019]

Begle, E.G. (1979) *Critical Variables in Mathematics Education: Findings from a Survey of the Empirical Literature*. Washington DC: Mathematical Association of America and National Council of Teachers of Mathematics.

Cremin, T. (2009) *Teaching English Creatively*, Abingdon: Routledge.

Cremin, T. & Arthur, J., 2014. *Learning to Teach in the Primary School* 3rd ed., Abingdon: Routledge.

Coe, R., Aloisi, C., Higgins, S. and Elliot Major, L. (2014) What makes great teaching: Review of underpinning research, available at: <http://www.suttontrust.com/researcharchive/great-teaching/>

Cooke, H. & Open University, 2007. *Mathematics for primary and early years* 2nd ed., Los Angeles, [Calif.]; London: SAGE.

Cotton, T., 2013. *Understanding and teaching primary mathematics* Second., Harlow, England: Pearson.

Desimone, L.M. (2009) Improving impact studies of teachers' professional development: toward better conceptualizations and measures, *Educational Researcher*, 38(3): 181-99.

Dillon, Maguire, Dillon, Justin, & Maguire, Meg. (2011). *Becoming a teacher issues in secondary education* (4th ed.). Maidenhead [England]: Open University

Donaldson, G. (2015) *Successful Futures: Independent Review of Curriculum - 7 - and Assessment Arrangements in Wales* Crown Copyright available at: <http://gov.wales/topics/educationandskills/schoolshome/curriculum-for-walescurriculum-for-life/why-we-are-changing/successful-futures/?lang=en> [Accessed: 5th Jan. 2019]

M6X02149

Student Number: 1800146

Word Count: 4106

Eke, R. and Lee, J. (2009) *Using Talk Effectively in the Primary Classroom*, London: David Fulton.

Grigg, R., 2010. *Becoming an outstanding primary school teacher*, Harlow: Longman.

Hall, K. (2006) *How Children Learn to Read and How Phonics Help*, in Lewis, M., Ellis, S., *Phonics: practice, research and policy*, London: Paul Chapman.

Hayes, D. (2014) *Professionalism and trainee teachers*, in Cremin, T., Arthur, J., *Learning to teach in the primary school* 3rd ed., Abingdon: Routledge.

Haylock, D. (2010) *Mathematics Explained for primary teachers (4th edition)*, London: Sage Publications Ltd.

Iaith Pawb: A National Action Plan for a Bilingual Wales (WAG, 2003):

<https://gov.wales/depc/publications/welshlanguage/iaithpawb/iaithpawbe.pdf?lang=en>

[Accessed: 5th Jan. 2019]

Kauchak D.P. and Eggen, P.D. (2007) *Learning and Teaching. Research-based Methods*, New York: Pearson.

Langtree, G. (1997) *Are You Ready?* Norwich: RMEP.

LNF - <http://learning.gov.wales/resources/browse-all/nlnf/?lang=en> Accessed: 5.1.19

Loughran, J. (1996) *Developing Reflective Practice: Learning about Teaching and Learning through Modelling*. London: Falmer.

Macaro, E., 2005. *Teaching and learning a second language: a review of recent research*, London: Continuum.

Matheson, L.G. (2015) *Essential Theory for Primary Teachers*. Abingdon: Routledge.

My local school Wales: <https://beta.gov.wales/my-local-school-guide> [Accessed: 5th Jan. 2019]

National Foundation for Education Research (2013) *Teacher Voice Omnibus: Spending priorities for the Pupil Premium*, March. Available at:

<https://www.nfer.ac.uk/publications/99929/99929.pdf> [Accessed: 5th Jan. 2019]

M6X02149
Student Number: 1800146
Word Count: 4106

Richards, C. (2014) *Primary Teaching: a personal perspective*, in Cremin, T., Arthur, J., *Learning to teach in the primary school* 3rd ed., Abingdon: Routledge.

Rowland, T., 2009. *Developing primary mathematics teaching reflecting on practice with the knowledge quartet*, Los Angeles: SAGE.

Schon, D.A (1987) *Educating the Reflective Practitioner: Toward a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey – Bass.

Scott, S and McNeish, D (2012) <https://www.bristol.ac.uk/media-library/sites/cubec/migrated/documents/leadershipandfaithschools.pdf> Accessed: 5.1.2019.

Shulman, L. (1986) Those who understand: Knowledge growth in teaching, *Educational Researcher* Vol.15. No. 2: pp. 4-14.

Shulman, L. S. (1987) Knowledge and teaching: Foundations of the new reform, *Harvard Educational Review*, 57(1): pp. 1-22

Turvey, K. et al., 2014. *Primary computing and ICT: knowledge, understanding and practice* Sixth ed., London: SAGE Publications Ltd.

Vygotsky, L. S. (1978) *Mind in Society*. London: Harvard University Press.

UNICEF. (2015). FACT SHEET: A summary of the rights under the Convention on the Rights of the Child. [online] Available at: http://www.unicef.org/crc/files/Rights_overview.pdf [Accessed 4th Jan. 2019]

University Wales Trinity St David: <https://www.uwtsd.ac.uk/pgce-primary/> [Accessed: 5th Jan. 2019]

Welsh Government: <https://gov.wales/docs/dcells/publications/170711-welsh-language-strategy-eng.pdf> [Accessed: 5th Jan. 2019]

Wray, D. (2014) *Looking at Learning*, in Cremin, T., Arthur, J., *Learning to teach in the primary school* 3rd ed., Abingdon: Routledge.

Woolfolk, A., Hughes, M., and Walkup, V. (2008) *Psychology in Education*, Harlow: London.