

A Portfolio of Evidence Critically Reflecting the Implementation of Three Pedagogical Principles.

Thursday, December 12, 2019 10:56 AM

Name: Nyree Walters

Student Number: 1600231

Pathway: Primary PGCE

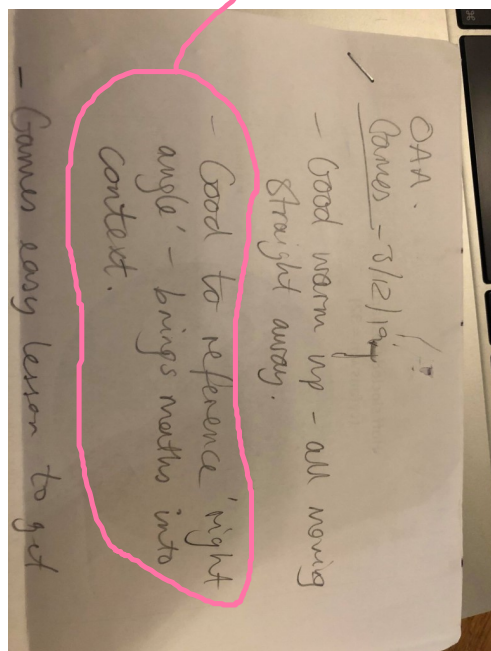
Targets from previous assignment:

	Target	What have I done in this assignment
Target 1	Don't keep directly quoting. You need to show you have understood what you have read	I have only included one direct quote which I believe is strong and relevant.
Target 2	There are some issues with the way in which you summarise. Some of your sentences and sections are very similar to the original text and bordering on copying. You must be careful of this when moving forward. Make sure you put the original source down or close the book and put it into your own words	I have ensured I have summarised and synthesised sources for a stronger essay with sufficient summarised references.

One drive link : https://uowtsd-my.sharepoint.com/:f/g/personal/1600231_student_uwtsd_ac_uk/EmWxgJ-TNpZHVWwi2C83WdwBy6dO1CD7VklzwEVBQtTqDQ?e=htnfZV

PE Lessons

Thursday, December 12, 2019 10:56 AM



Despite this being a small piece of evidence, I endeavored to use as much maths as possible w came to my PE Lessons. This particular piece of evidence shows how I referenced a right angle modelling a lunge in a warm up of an Outdoor Adventurous Activities Physical Education Lesson year 6 class. The other simple maths in the lesson included division (in order to get into small groups) and multiplication to figure out how many lunges we would do in 5 sets of 10 lunges!

I found games and PE lessons to be a good opportunity to ensure cross curricular responsibilities are carried out. During my time in the year 6 class, the learners choreographed group Haka dances during their Topic PE lessons. I delivered a follow up lesson, where the children performed their haka dances and used ICT skills to film and produce iMovies of their haka dances. The images show the success criteria generated for the children to be successful in performing their haka dances, as well as the success criteria for their lesson of producing iMovies of their haka dances on iPads. The final iMovies were uploaded to Seesaw where the children peer assessed each other's work against the two sets of success criteria (this lesson could also link to the pedagogical principle of Assessment For Learning).

Focus: Create and perform a 'Haka' inspired dance
EOL6, EOEO6

What needed to be included in your Haka dance?

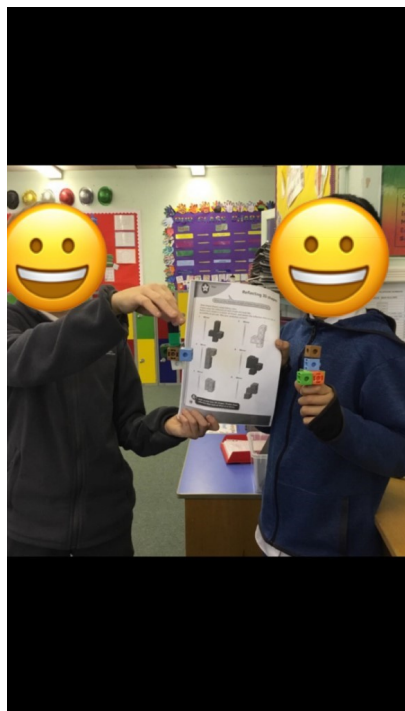
- Success criteria:
- Unique
- Teamwork
- Appropriate body language, facial expressions and volume
- Listen to each other
- Focus from start to finish
- Keep in time

Creating your iMovie

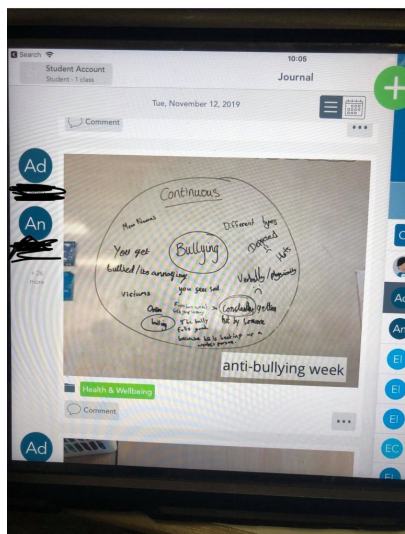
- To create a successful iMovie, you will need ALL of the following:-

- Opening credits
- Audio/sound effects
- Your FULL haka dance
- A concluding slide - thank you for watching etc.
- Upload to seesaw

Thursday, December 12, 2019 10:57 AM



This is an image which was uploaded to seesaw following a Maths Reflection Lesson. These two individuals worked particularly well to reflect the images on a work sheet into physical objects. They then displayed good digital competence by independently uploading their work to seesaw.



Page 1 of 1

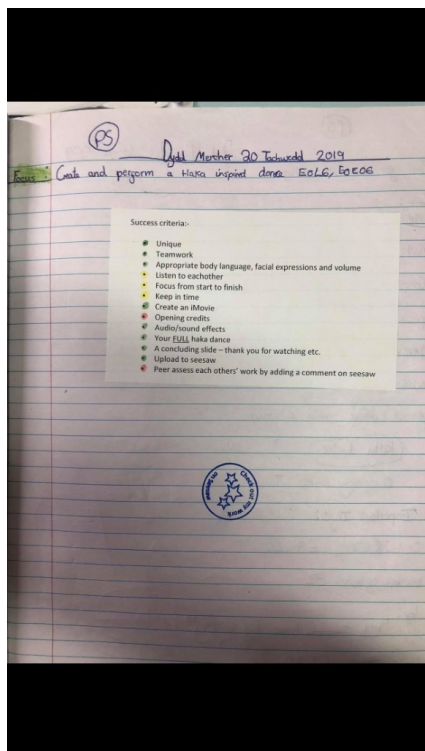
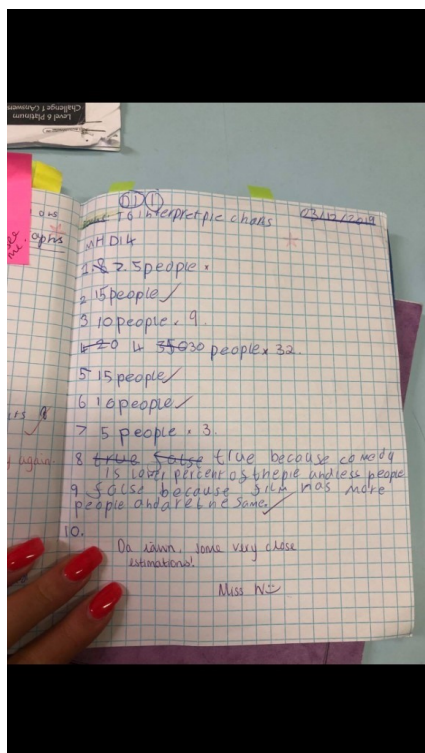
Thursday, December 12, 2019 10:58 AM



During my time at the first part of PTE 1, I was given to opportunity to deliver an in-depth ICT lesson on some skills which can be used on Microsoft Excel. This 'lesson' lasted a whole day and was delivered to half of the class (the other learners were taught by another student teacher). During this lesson, I delivered skills such as adding/subtracting numbers in a spreadsheet and displaying data as a graph. The learners had to independently work through some mathematic questions and decide which graph would be more suitable for displaying their particular data. The attached lesson plan allows you to see how these skills were carried out in depth.

Self Assessment – Traffic Lights

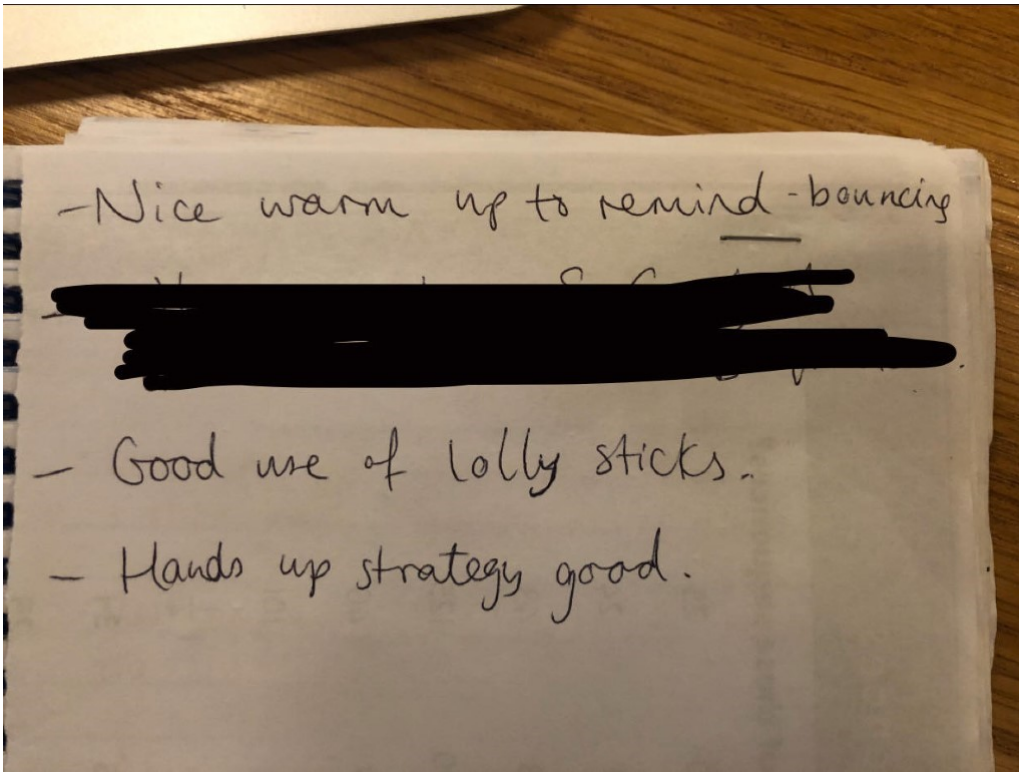
Thursday, December 12, 2019 10:56 AM



Both of these images capture the use of the traffic light system. At the end of the lesson, each learner is required to traffic light their focus and/or their success criteria (if applicable). This allows the teachers to clearly see how competent the learner feels with this particular topic and whether they were successful with meeting every aspect of their success criteria. I found that this system is particularly helpful for informing further lesson planning.

Intro AFL Strategies

Thursday, December 12, 2019 10:59 AM



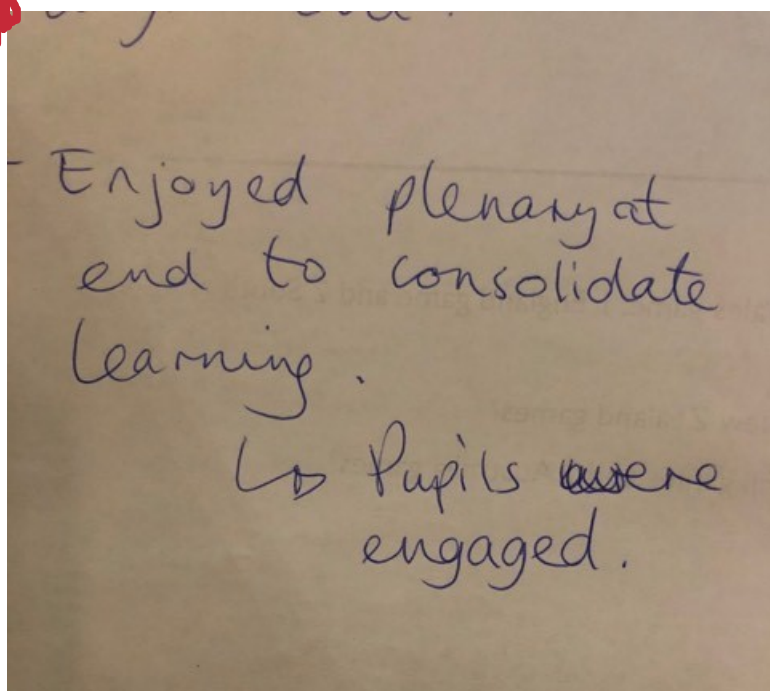
During my lessons, I endeavored to use a number of questioning strategies to find out what the children already know/what they remember from a previous lesson. This image shows some feedback I received from a starter/input of a year 6 maths lesson. I used the pose, pause, pounce, bounce method to recall previous knowledge. I then went onto using lollypop sticks for choosing children to come to the white board to demonstrate their knowledge of graphs and then onto the hands-up strategy for some higher ability questions to figure out if any students already knew about pie charts (which we were covering in that particular lesson). AFL was a target during the first week of placement, therefore I was happy to receive good feedback on my AFL strategies in my final week!

Plenary AFL Strategies

Thursday, December 12, 2019 10:59 AM

Throughout my time at PTE 1 part one in year 6, I taught a series of maths lessons on different types graphs/charts. During the last lesson, I decided to consolidate learning and understanding of graphs by playing a fun game of hot seating. Captured in images below is my lesson plan which includes the hot seating as well as the feedback given after the lesson was delivered.

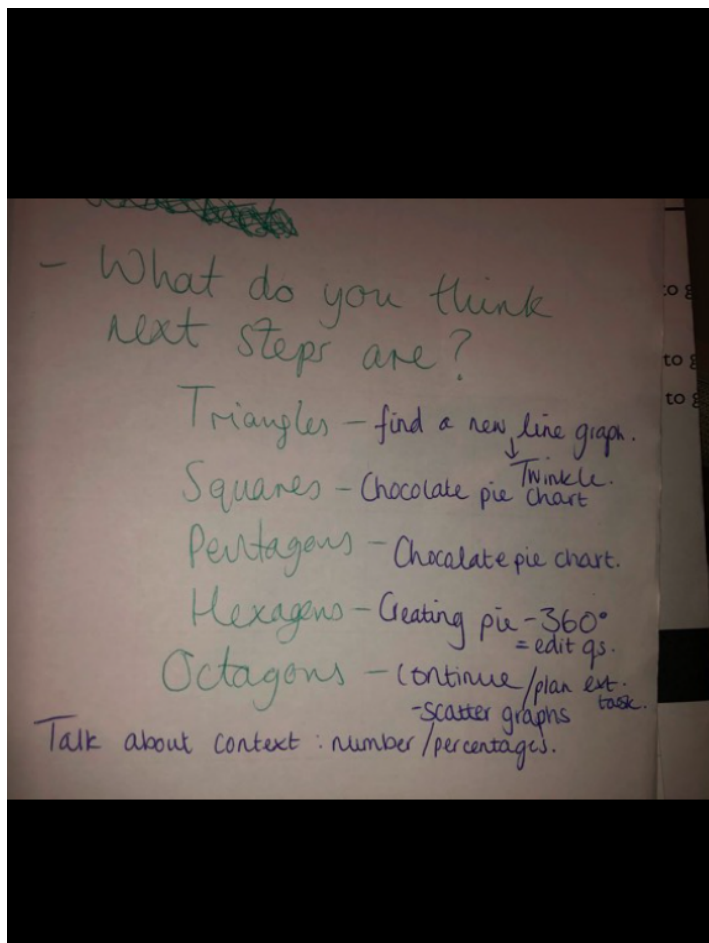
Opening phase (with links to prior learning)	Recapioing previous lesson Pose, pause, pounce, bounce (What did we learn yesterday?) Revisit the context of reading pie charts – number of people not percentages.	Give their thoughts/struggles on previous lesson – these will then be tackled in introduction	Powerpoint presentation
Teaching & Core Learning	Set learners on task -	Triangles – twinkle sunflower line graphs task Squares, Pentagons – chocolate pie charts Et – Pie charts twinkle task Hexagons – Abacus new y6 bk 2 page 74 Q1-10 ET new y6 bk2 page 75 Q1-14 Octagons – Scatter graphs task – continue from yesterday's lesson	Work sheets Text books Maths books
Plenary	Hot seating – 1 learner sat at front of class, given an aspect of a graph – other learners question them about their aspect to figure out which aspect they are - YES/NO ANSWERS ONLY	Hot seating /questionning Ending the series of graphs lessons – rounding off knowledge gained.	N/A



Maths Lesson

Thursday, December 12, 2019 10:57 AM

The image below captures some rough collaboration between myself and the class teacher when deciding what the learners need to do to progress in their learning. It shows the resources I went on to use to challenge the maths ability groups to further their understanding of graphs. I have also attached the 'chocolate pie chart' resource which each ability group completed at different stages of their learning (some earlier than others). This pie chart was created based upon research taken earlier on in the year, therefore would be recognisable and engaging for the learners.



Chocolate
Pie Charts

Literacy Lesson

Thursday, December 12, 2019 10:59 AM

Within literacy I delivered some lessons on connectives, particularly causal connectives, which then went on to using these causal connectives in persuasive writing – persuading people to visit different countries around the world. The base of introducing these causal connectives meant that the learners could go on to use these particular words in a number of pieces of work.

The learners had previously learnt a number of different methods of learning to spell, and after learning the meanings and uses of the causal connectives, I lead a spelling lesson based solely on causal connectives.

During the lesson, I allowed the children the choice of which spelling method they would like to use, as well as a choice of resource they would like to use when choosing the connectives to practice to spell (these included word banks, library books, posters, their own persuasive writing and books from home). The pupil choice ensured the children were engaged in what could otherwise be a lesson which risks a lack of engagement.

I have attached the lesson powerpoint.



Spelling
friday 21st

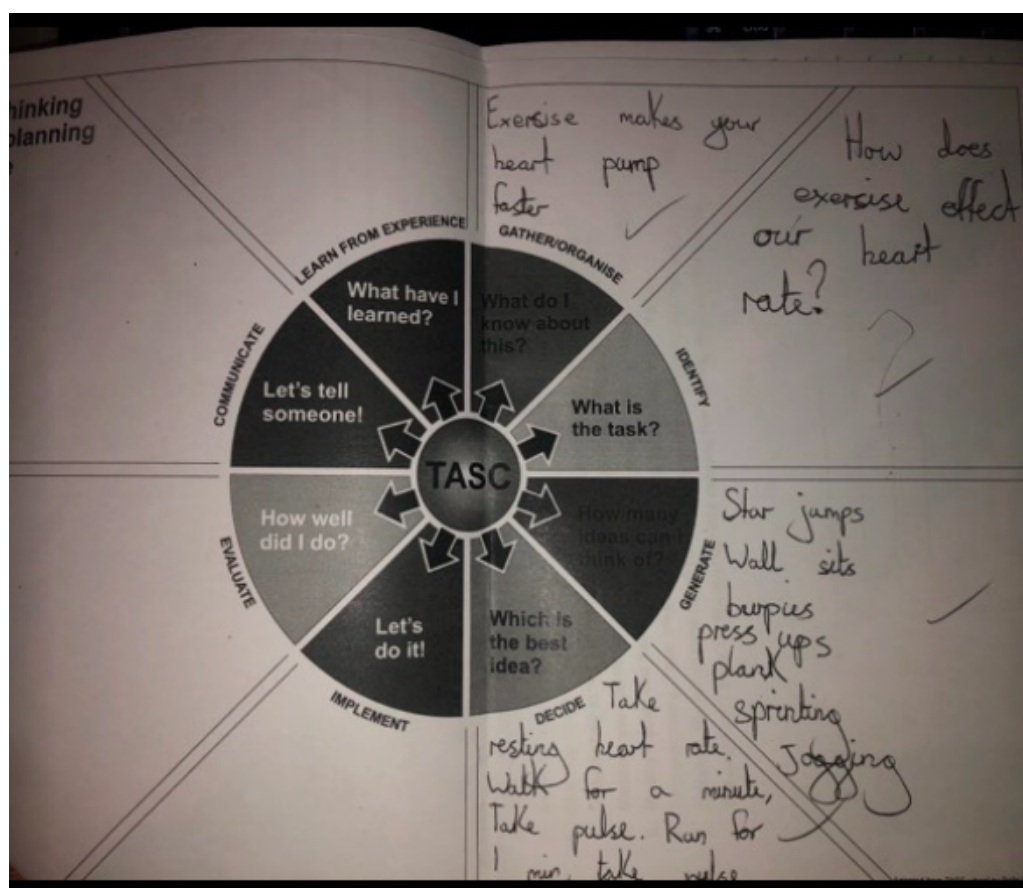
Science Lesson

Thursday, December 12, 2019 10:59 AM

I delivered a follow up lesson in science which ensured resources were selected to build upon previous knowledge. In the initial lesson was the first science investigation carried out in year 6. My lesson went on to use their findings of their investigation to evaluate and reflect.

As the learners were investigating their own heart rate, the evaluation involved a lot of comparing and contrasting with peers before writing their findings, which is always engaging in this particular year 6 class!

Attached is an image of the 'thinking wheel' that the whole class used in the previous lesson delivered by the class teacher and was completed during my lesson.



Reflective Commentary

Thursday, December 12, 2019 10:57 AM

Following the presentation of illustrative examples of meeting the pedagogical principles, this critical reflection will be based upon my own progress in planning and implementing the pedagogical principles upon reflecting I will also come to some conclusions and targets for ensuring improvements in further practice. This part of the assignment will also include a discussion of the literature on effective teaching and learning which focusses on the particular pedagogical principles in question, which will also work towards further recommendations. I personally worked towards meeting the pedagogical principles in a Year 6 class of a small, inner-city primary school in South Wales. Despite working towards all twelve of the principles during my time at placement, this assignment will focus upon just three principles; good teaching and learning means employing assessment for learning principles, good teaching and learning regularly reinforces Cross-Curriculum Responsibilities, including literacy, numeracy and digital competence, and provides opportunities to practice them and good teaching and learning sets tasks and selects resources that build on previous knowledge and experience and engage interest. All principles are outlined by Donaldson (2015) and should be implemented by all teachers for good teaching and learning.

Successful Futures identifies key attributes of excellent teachers that link with the four purposes of the new curriculum. The four excellence attributes of good teaching include excellent subject expertise, sound classroom skills, understanding of how social and psychological factors influence learning and the ability to excite and inspire children to become independent learners (Wilson and Miller, 2018). These excellence attributes are underpinned by Donaldson's twelve pedagogical principles. I will discuss three of these pedagogical principles in the following literature review, beginning with reinforcing cross curricular responsibilities, literacy, numeracy and digital competence.

The cross-curricular responsibilities of literacy, numeracy and digital competence support almost all learning and are essential for learners to be able to be successful citizens of the modern world. Literacy, numeracy and digital competence together need to be considered as part of school-level curriculum design across all six of the areas of learning and experience (AoLES). They are embedded within *Curriculum for Wales 2022 guidance*, where they support the learning set out within the areas of learning and experience guidance (Donaldson, 2015). Successful Futures highlights how it will then be the responsibility of all teachers to collaborate within the education setting to plan progression across the full range of literacy, numeracy and digital skills flexibly and appropriately in order to the needs of individual learners.

It has, however, been highlighted that in order for students to develop high levels of competence in these skills and have opportunities to extend and apply them throughout all AoLEs across the curriculum, the national literacy and numeracy framework (LNF) and the digital competence framework (DCF) will continuously be available. (Education Wales, 2019)

It is not surprising that the number of benefits of cross curricular learning are evident in literature. Lynch (2019) discusses the connection of even two subjects together with a similar lesson focus has the ability to deepen the impact of the learning, particularly for those students who often ask "When will I ever need this?" Cross curricular learning is moving away from a prescribed curriculum to a collaborative one in which teachers work collaboratively to design a multi-layered lesson that

incorporates more than one discipline.

Lynch (2019) also goes on to mention that through the teaching of a cross curricular curriculum, students are then expected to apply their learning, which in turn leads to excitement about further understanding and discoveries. Students should be able to reflect on concepts and ideas and interact with each other as they dig deeper into the focus of the lessons, thus meaning the students are receiving a highly beneficial learning experience (Amadio, 2019). Cross curricular learning moves away from the notion of the learning of memorising facts; cross curricular learning encourages students to make their own connections and draw their own conclusions based on their learning (Amadio, 2019; Lynch 2019).

On the other hand, the primary drawback of a cross curricular learning experience as expressed by teachers is a lack of time for collaboration. Lack of time is a frequently occurring limiting factor. It is thought that it has the potential to start off with success and fade over some time if not well planned and directed. As teachers are already thought to be over-extended in lesson planning, grading and preparing for teaching, some restructuring of planning time could potentially be necessary (Lynch, 2019).

Cross-Curricular teaching certainly has the potential to change the way students learn and process information in a dramatic way. However, it seems that there may need to be needs to be a sizable change in the way the school day is structured and how teachers plan their lessons (Lynch, 2019; Wilson and Miller, 2018)

A further pedagogical principle which will be discussed in this literature review is the use of assessment for learning to accelerate progress. Donaldson's Successful Futures suggests that "good assessment in the classroom needs clear understanding of what it is to be learnt and ways of gathering evidence of the achievement". As well as this, the importance of involving students in the assessment process is also highlighted by Donaldson. It has been suggested that the involvement of the learners in assessment process will encourage them to take a greater responsibility of their own learning feel a sense of ownership over their progress. However, the report does go on to recommend a development in the overall assessment and evaluation framework in Wales, where it shouldn't depend solely on external or internal tests which fail to reflect the curriculum, and should be as light-touch as possible, giving learners a more enjoyable learning experience (Donaldson, 2015; gov.uk, 2018)

According to Jones (2005) teachers make professional judgements on learners' performance at every given opportunity, may this be during a teaching and learning session undertaken, conversation, or marking work, whether this be consciously or subconsciously. Using these professional judgements and translating them into feedback on the quality of individuals' work is the primary focus of Assessment for Learning (Jones, 2005). Successful Assessment for Learning strategies should mirror an improvement in learner progress on a continual basis, if successful. Jones (2005) discusses how the principal characteristic of Assessment for Learning is effective feedback provided by teachers to learners on their progress. The value of the feedback is dependent on two main factors; The quality of the feedback and how the learners use it to progress (Jones, 2005; Ahea, 2016) It is thought that the feedback and reflection strategy of the individual school or teacher is of just as much importance as the delivery of a lesson for the learner's educational progression (Ahea, 2016).

Assessment for learning is an excellent way of building resilience, of building self-efficacy, which means that through effective feedback, students learn to build their confidence in how to be able to deal with and react to challenging situation (Harrison, 2013). Students who are empowered are far more likely to achieve their potential because they have the skills, the knowledge, the resources to get the best out of the learning process (Harrison, 2013).

Assessment for Learning and quality feedback can and do promote increased learner progress. However, assessment of learning rather than assessment for learning has recognisably preoccupied the teaching profession and education sector for many years, in efforts to meet awarding body requirements. Assessment of learning can detract from effective classroom practice and prevent feeding back assessment decisions to learners on their performance with the view to improving their work. (Jones, 2005). However Donaldson (2015) enforces the importance of the use of Assessment for Learning in the new Welsh curriculum for 2020.

A final pedagogical principle visited in this literature review will be selecting resources to build on previous knowledge and experience and engage interest. Curriculum for Wales (2018) outlines how Wales' new curriculum and assessment arrangements are now being built on progression. It will offer teacher's freedom to teach in a way which best meets the needs of each individual with the four purposes at its heart. In line with Successful Futures, the curriculum and assessment will be based upon progression, and so each of the Areas of Learning Experience will include 'Progression Steps', whereby the individual's learning and progression go hand-in-hand, bringing a purposeful experience to sequencing learning (Curriculum for Wales, 2018)

Piaget (1968) proposed that young children gradually develop cognitive structures that make sense of the world, and so by the time they enter a schooling environment, each individual has made judgements and constructed theories on how things work and on themselves and others. It is mentioned that often, during the planning stage, not enough time is dedicated to accessing pre-existing knowledge of the learners.

"Successful teaching is like a construction site – it is a construction site – on which students build on what they already know." (Biggs, 1999, p.72)

Upon using a constructivist framework, Biggs (1999) discusses how meaning is not simply passed from teacher to student, it is a process where constructing a knowledge base is done by students using the materials supplied by a teacher and by their prior experience (Ellis and Sailsbury (2004). Prior knowledge is one of the most influential factors in learning (Hattie and Yates, 2014). However if these preconceptions are not engaged, children may fail to grasp the new topic or concept (Tobias, 1994; Rittle-Johnson, 2009). To expand on this, Rittle-Johnson (2009) also states that if student pre-existing knowledge conflicts with the new content, the presented material or information is at risk of being misunderstood by the learner. Donaldson (2015) has discussed how the new curriculum will help our young people thrive and compete in an ever-changing world as successful citizens. It is being developed collaboratively as an integrated whole with progression, assessment and pedagogy, to make successful futures a reality.

The second section of this essay includes a reflection upon the implementation stage of the three discussed pedagogical principles, beginning with reinforcing cross curricular responsibilities of literacy, numeracy and digital competence. At the very beginning of my first professional teaching (PTE 1), enforcing cross curricular responsibilities of literacy, numeracy and digital competence were not a priority to me. I found myself solely concentrating on the style in which I delivered my lessons and getting to know the children. This was down to the fact that all of my prior experience was in early years and I felt very inexperienced and lacking knowledge of teaching upper key stage two students. The lack of cross curricular responsibilities at the beginning of my professional teaching experience was reflected in my daily learning journal. As the learning experience went on, there were often lessons which still lacked in clear use of cross curricular responsibilities. I was mainly appointed the responsibility of delivering the maths lessons over my time at placement, I found maths extremely difficult to enforce cross curricular responsibilities. However, after seeking some guidance on this

topic, I decided to concentrate on one group at a time. Beginning with the more able and talented (MAT) group in the class; when delivering lessons on graphs, these MAT students were moving on to a new style of graph, and so I decided that they could introduce themselves to the topic using video tutorial and by talking amongst themselves to answer a series of questions. I clearly remember this lesson as it was a starting point for introducing the use of digital competency into my maths lessons. From then, I found myself improving in the use of cross curricular learning and this was reflected in the feedback in my learning journal.

During my time at PTE 1, I have found that some lessons lend themselves to cross curricular learning, and some are more difficult. My games lessons and science lessons lent themselves to an easy use of numeracy, literacy and digital competency. I also found that these were the successful lessons which engaged the students and reflected better outcomes of completed work. This view has been highlighted in much literature, including Rosenfeld and Martinez-Pons (2005) who discusses how using technology in the classroom allows for teachers to experiment more in pedagogy and it allows for more active learning and engagement. I have seen this in practice particularly when work is "Seesaw'd", meaning an image of an individual's work is uploaded to seesaw for feedback. I observed the children as they engaged with seesaw for the use of feedback from a teacher as well as peers though peer-assessment and engagement levels were higher than when feedback is merely in written format in work books. This factor of cross curricular learning could also be a factor in implementing the principle of assessment for learning to accelerate learning. Thus, due to this observed effective pupil engagement, will take a regular active use of seesaw in future practice.

Despite lacking confidence in this principle at the beginning of PTE 1, I now feel confident in reinforcing cross curricular responsibilities going onto the second part of PTE 1 due to the progress that I have made over time in this principle. However, in order to further my practice in this principle, I will endeavour to ensure literacy is implemented throughout all areas of learning experience as this is the area that I believe needs to be developed on further in practice.

The school in which I am completing PTE 1 regularly reinforces the use of a number of assessment for learning strategies. And so, the first part of my professional experience has allowed me to experiment with a range of good strategies in my lessons. It had become apparent that at the beginning of my professional teaching experience, my questioning strategies during the input at the beginning of the lesson were not effective. This was discussed in my feedback, where criticisms of many closed questions were often used. These questions lacked challenge and regularly lacked engagement from the students from the beginning, leading to a lack of engagement and involvement throughout the whole lesson. Thus, my questioning strategies became a target to work upon throughout my experience.

Good feedback upon assessment for learning strategies during my introductions and plenaries were regularly apparent in my feedback. Nevertheless I feel as though I practiced a number of strategies which were successful during the beginning of my time on PTE 1, these include pose, pause, pounce, bounce, traffic lighting, think, pair share and success criteria. However, since becoming comfortable with using these strategies of assessment for learning within the classroom, I lacked attempting new strategies later in the experience. Roehl et al, (2013) reinforces how regularly using new strategies for assessment for learning within the classroom ensures children are engaged and interested in the lessons, avoiding boredom and continual predictable lesson patterns.

A further weakness that relates to the implementation of this principle is my level of good feedback. I found myself regularly praising children for just completing work during the lesson but when it came to look at the completed work upon marking, there were often some areas to work upon. I found that some children were confused about my feedback and often lacked clarity. Nicol and Macfarlane-Dick (2006) reinforce the importance of feedback for students to take ownership of their learning in order to progress further. It is also discussed that self-assessment and peer assessment allows for students to have a proactive rather than a reactive role in generating and using feedback, benefitting outcomes and progress (Nicol and Macfarlane-Dick, 2006); thus, in order to develop this principle further, I will practice the strategies of self and peer assessment regularly. As well as this, I will continue to work upon my questioning strategies, and clarity in my feedback methods. This can be done, however with difficulty, through ensuring full attention on a learner who approaches with finished work. In future I will ensure the work is looked at and improved instead of moving onto an extension task even if the previous work withholds mistakes.

Finally, I will cover a reflection upon my experience in implementing the chosen principle of selecting resources to build on previous knowledge and experience and engage interest. At the beginning of the professional teaching experience, without knowing the learners, implementing this principle was almost impossible. At the beginning, getting to know the learners' abilities came down to short conversations with the class teacher when planning and ensuring a scaffold and/or an extension task was readily available if the tasks were too challenging or too easy for the learners. Throughout my time working in the year six class, the level of challenge in my tasks and resources were often criticised. Building on challenging resources and having readily available extension tasks was a target which was carried over three weeks of my teaching experience. It is essential that teachers know the level in which the learners are working at in order to plan appropriate lessons and work. This opinion comes from Hattie (2012) who indicates this importance of an understanding of the strengths of learners within the class. However, as a student teacher I felt as though I wasn't able to grasp this deep understanding within the short time at this class.

As discussed earlier in the essay, I primarily taught maths throughout my first teaching experience. I found it difficult to mark the work and plan resources to challenge the learners further based upon the work completed by the following lesson. I knew this was a weakness as I found myself turning to the class teacher for their opinions and other student teachers for help and assistance when planning lessons to suit the learners.

However, as the placement developed, I became more familiar with the learners' levels and their strengths, meaning I felt as though I could more confidently plan appropriate lessons which built upon their previous knowledge. I used collaboration with other teachers and the progression step planners in order to get to a state of confidence with planning appropriate resources.

I will always endeavour to improve and progress the implementation of all of the principles throughout my professional teaching experiences, no matter how difficult. However, with only spending a short amount of time within a class, the opportunity to understand a child's strengths and needs is limited. However, in my next placement I will put forward in-depth conversations with the class teacher on the topic to ensure I get the best insight possible before and during the teaching stage of the second part of the professional teaching experience.

To conclude, upon writing this reflective commentary, I have noticed the progress that I have made throughout my time at my first professional teaching experience. My confidence has grown in my delivery of lessons. However, the improvement towards implementation of the discussed pedagogical principles needed has come to my attention. In order to meet targets towards successful

implementation of the pedagogical principles, I will need to ensure I am organised, understanding of the students' needs and always working towards improving practice.

Reference List

Thursday, December 12, 2019 10:57 AM

Ahea, M., 2016. The Value and Effectiveness of Feedback in Improving Students' Learning and Professionalizing Teaching in Higher Education. *Journal of Education and Practice*, 7(16), pp.38-41.

Amadio, M., 2013. A rapid assessment of curricula for general education focusing on cross-curricular themes and generic competences or skills. *Background paper for EFA Global Monitoring Report*, 14.

Biggs, John B. (1999). *Teaching for quality learning at university: what the student does*. Society for Research into Higher Education: Open University Press, Buckingham

Donaldson, G. (2015). *Successful Futures: Independent review of curriculum and assessment arrangements in Wales*. Caerdydd: Llywodraeth Cenedlaethol Cymru.

Education Wales (2019). *A Guide to Curriculum for Wales 2022*. Cardiff: Gov.uk.

Ellis, J. and Salisbury, F., 2004. Information literacy milestones: building upon the prior knowledge of first-year students. *The Australian Library Journal*, 53(4), pp.383-396.

Harrison, C. (2013). Assessment for Learning: Are you using it effectively in your classroom?. *The Guardian*. [online] Available at: <https://www.theguardian.com/teacher-network/teacher-blog/2013/aug/29/assessment-for-learning-effective-classroom> [Accessed 21 Dec. 2019].

Hattie, J., 2012. *Visible learning for teachers: Maximizing impact on learning*. Routledge.

Hattie, J.A. and Yates, G.C., 2014. Using feedback to promote learning. *Acknowledgments and Dedication*, 45.

Leitch, R., Gardner, J., Mitchell, S., Lundy, L., Clough, P., Galanouli, D. and Odena, O., 2006. Researching creatively with pupils in Assessment for Learning (AfL) classrooms on experiences of participation and consultation.

Lynch, M. (2019). *Pros and Cons of Cross-Curricular Teaching - The Edvocate*. [online] The Edvocate. Available at: <https://www.theedadvocate.org/pros-and-cons-of-cross-curricular-teaching/> [Accessed 12 Dec. 2019].

Nicol, D.J. and Macfarlane-Dick, D., 2006. Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in higher education*, 31(2), pp.199-218.

Piaget, J., 1968. Quantification, conservation, and nativism. *Science*.

Rittle-Johnson, B., Star, J.R. and Durkin, K., 2009. The importance of prior knowledge when comparing examples: Influences on conceptual and procedural knowledge of equation solving. *Journal of Educational Psychology*, 101(4), p.836.

Roehl, A., Reddy, S.L. and Shannon, G.J., 2013. The flipped classroom: An opportunity to engage millennial students through active learning strategies. *Journal of Family & Consumer Sciences*, 105(2), pp.44-49.

Rosenfeld, B. and Martinez-Pons, M., 2005. Promoting classroom technology use. *Quarterly Review of Distance Education*, 6(2), p.145.

Tobias, S., 1994. Interest, prior knowledge, and learning. *Review of Educational Research*, 64(1), pp.37-54.

Welsh Government (2018). *Wales' new curriculum and assessment arrangements are being built on progression*. Cardiff: Gov.uk.

Wilson, F. and Miller, J. (2018). *A Guide to Managing Curriculum Change in Wales*. 1st ed. Oxford University Press.