

ECAD6008C Overview

Tuesday, 31 December 2019 12:17

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Link to One Note:<https://uowtsd-my.sharepoint.com/:o:/g/personal/1904367>

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Assessment for Learning

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GWERS 2

Ailadrodd y wers olaf:
Beth vdy tywydd?

Beth vdy hinsawdd?

Pa 2 beth mae graff hinsawdd yn dangos?

Ar eich post it's- beth sydd yn gwneud graff da?

NOD Y WERS
Rydyn ni'n mynd i ddysgu sut i blotio ein graffiau hinsawdd ein hunain a nodi'r newidiadau yn y flwyddyn

This shows the starter of a lesson where key words (climate and weather) are recalled and numeracy skills regarding climate graphs are explored ready for plotting their own data

Evidence 1: Lesson Starter Presentation Slide

Year 8- Set 1

Climate and Weather- Climate Graphs

Basic Questioning for AfL- Recall and check for understanding from previous lesson

What went well: simple questions were answered, most of the information remembered

Issues: Questions did not develop, not a good indicator for whole-class understanding

Plotiwrch y bariau glawiad!

Tynnwch lun pob bar mewn pensil a defnyddio pren mesur bob tro!

Nesaf- Plotio'r tymheredd

- Rhowch ddod ar gyfer tymheredd pob mis yng nghanol pob bar
- Gwnewch yn siŵr eich bod yn defnyddio'r echel-Y ar y dde ar gyfer graddfa ac nid yr echel glawiad!

BETH SYDD AR GOLL?

TEITL!

Cofiwch wirio bod pob echel wedi'i labelu a bod pob mis wedi'i photio'n gywir

Mae'n hawdd newid hyn pan rydych yn llunio'r graff mewn PENSIL

DA IAWN WEDI GORFFEN!

Here is a set of slides used to live model creating a climate graph. This was used as the class simultaneously drew the graph and after each step held up the answers for the teacher to check before revealing the answers. The slides also reminds pupils to check any mathematical issue with graph such as missing axis or incorrect plotting.

Evidence 2: Step by Step Modelling of class climate graph drawing activity

Year 8 Set 1

Climate and Weather: Plotting climate graphs step by step

Whiteboard "Show Me" Method for AfL

Numerical Skills: Using mathematical graph skills to plot real temperature and rainfall data on a climate graph to later use to describe trends and compare regional climates.

What went well: Whiteboarding "show me" method for each step very effective method of holding up sheets as a class to check shape and trend of graphs very effective in visually identifying errors.

Issues: Only effective with visual tasks like graphs or maps, ineffective for any other numerical task or literacy.

- Daeargryn ydy cramen y ddaear yn crynu
- Mae daeargrynfeydd yn digwydd ar hyd ymyl y platiau
- Hyn ydy rhyddhad o wasgedd sy'n casglu tu fewn i'r ddaear

Map Ffyn

Here is a slide taken from an "Introduction to Earthquakes" presentation where the questions or comments for each slide were structured and written underneath on a printout. This meant that there was questions to check understanding for each part of the lesson and AfL could be informally addressed frequently.

Cwestiynau i ofyn:

Beth ydy cramen y ddaear? (Haenau y ddaear- cramen, mantell, craidd)

Beth mae'r platiau yn ei wneud? (Symudwch gyda cherrynt mantell-Craig yn bennaf ond yn symud ar ffiniau plân)

Pa gyfeiriad mae'r plât yn symud (pwyntio at ffiniau penodol-gwneud sawl un)

Beth yw gwasgedd?

Beth yw ffrithiant?

Pa weithgarwch tectonig arall rydym wedi edrych arno? Llosgfynyddoedd

Sut mae'r rhain yn wahanol?

Evidence 3: Presentation slide printed out with possible questions underneath

Year 9 Set 1

Tectonic Activity: Earthquakes and plate boundaries

Pre planned structured questioning for AfL

What went well: Flow and pace of questioning faster and more effective, pupils responded well and recall was high

Issues: Felt slightly robotic firing questions, did not leave room for development of discussion or opportunity for broader concepts

Cross-Curriculum Responsibilities

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Daeargrnyfeydd Siapan: y wlad sy'n barod am beth all natur eu taflu

Mae plant ysgol o Siapan yn cael eu hatgoffa'n aml o'r risg ddirifol maent yn wynebu

Yn ôl Asiantaeth Feteoroleg Siapan (JMA), mae tua 2000 o ddaeargrnyfeydd bob blwyddyn yn Japan ar gyfartaledd, a gwelodd 2011 fwy na 10,000 o ddaeargrnyfeydd.



Sleid brys i ddianc dân mewn adeiladau tai

Mae pob plentyn ysgol yn Siapan yn gyfarwydd â driliau daeargrnyfeydd. Mae lachmau'n swmlo a phlant yn cuddio o dan eu desgiau i gysgodi rhag rwybel yn cwympo.

Mae'r driliau'n digwydd bob mis, gyda'r plant yn cael eu dysgu i fynd yn gyntaf o dan y ddesg a gwynu wrth goesau bwrdd nes bod y daeargrnyfeydd drosodd. Os ydy'r plant allan yn y iard maent yn rhuthro i ganol unthwy fan agored.

Gyda'r orsaf dân leol, mae plant hefyd yn ymarfer mewn dyfais efelychu daeargrnyfeydd sy'n ystafelloedd arbennig y gellir eu gwneud i ysgwyd yn union fel y byddent mewn daeargrnyfeydd.

Mewn ysgolion sydd â thri llawr, gall y plant hyn hefyd ymarfer defnyddio sleidiau brys i gyrraedd y ddaear o'r lefel uchaf.

Modwedd arall o'r ymarferion yw esgus bod tân wedi torri allan a dod o hyd i ffordd ddiogel allan o'r ysgol.

FWY O YSGOLION GWRTH-SYRTHIO YN CAEL EI ADEILADU

Ymatebodd yr elusen Design for Disasters trwy greu rhaglen adeiladu yng Ngwlad Thai er mwon ddylunio ysgolion sy'n gwrthsefyll daeargrnyfeydd ar gyfer yr ardaloedd sydd wedi ei effeithio'n wael.

Mae Ysgol Baan Huay Sam Yaw wedi'i hadeiladu ar stiliau dur ac mae'r waliau a'r lloriau wedi'u gwneud o sment barobw a fibr.

Mae hyn yn rhatach nag adeiladau arferol yn fwy effeithiol ar gyfer gwrthsefyll daeargrnyfeydd ac yn well ar gyfer yr amgylchedd.



Cwestiynau

1. Faint o ddaeargrnyfeydd sydd yn digwydd pob blwyddyn yn Siapan ar gyfartaledd?
2. Pa mor aml ydy driliau daeargrnyfeydd a beth sydd yn digwydd?
3. Pa ddyfais ydy'r orsaf dân yn cynnig am ymarferion a sut ydy hyn yn gweithio?
4. Beth ydy ysgolion gyda mwy na dau llawr yn defnyddio?
5. Yng Ngwlad Thai faint o ysgolion a dinistriwyd yn ystod echdoriad 2014?
6. Pa elusen ailadeiladwyd ysgolion Gwlad Thai?
7. Sut adeiladwyd yr ysgol yn wahanol i ysgolion arferol?
8. Pa dair mantais sydd i'r deunyddiau a ddefnyddir i adeiladu Ysgol Baan Huay Sam Yaw?

Evidence 1: Article created for comprehension (made by myself)

Year 9 Set 1

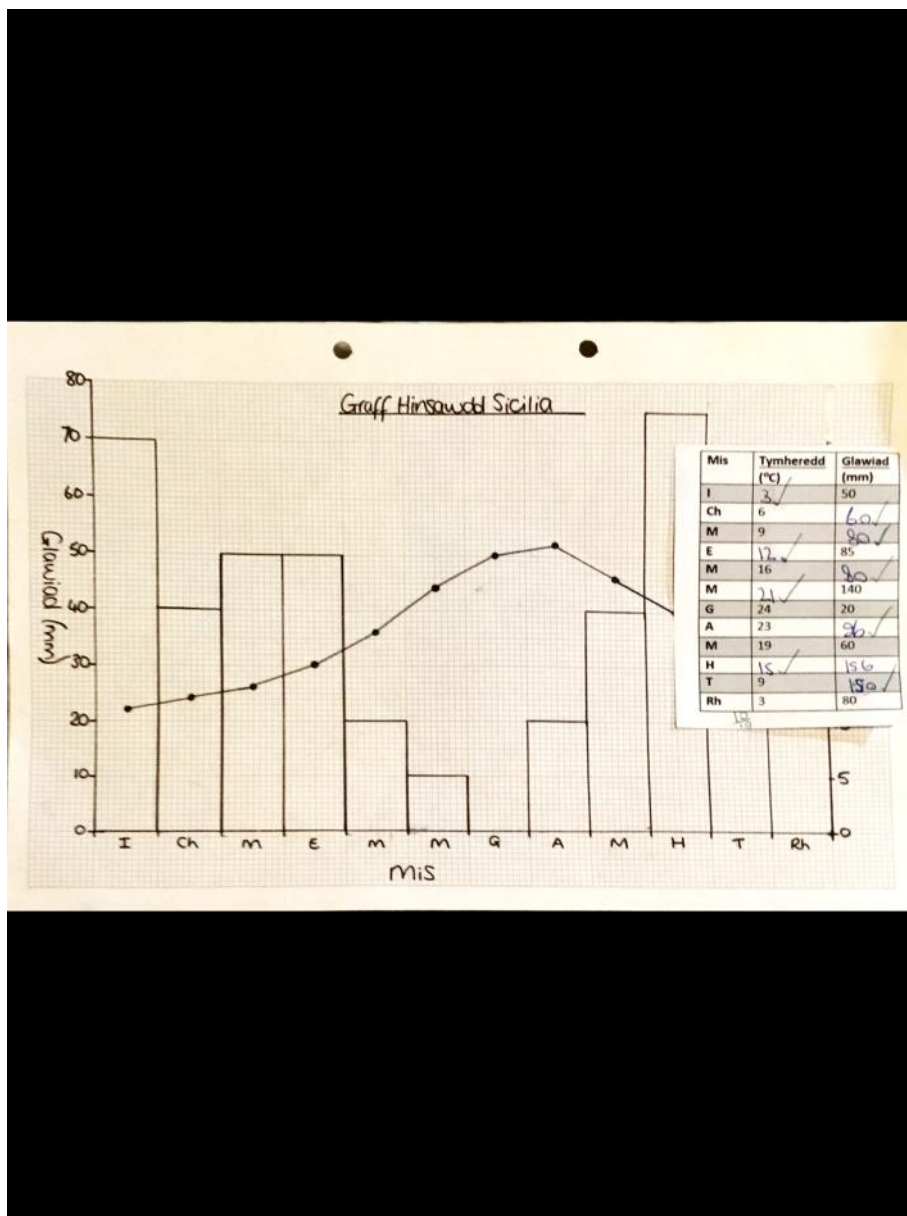
Tectonic Activity: How to prepare for an earthquake in schools

Literacy Cross Curricular Responsibility

What went well: Topic was interesting enough to keep pupils engaged throughout comprehension and improved literacy skills and geographical terms.

Issues: Whilst monitoring writing pupils asked for definitions of the same words repeatedly, certain definitions should be defined before starting

Here is an article I created to explore how schools in tectonic regions prepare pupils with emergency drills for the event of an earthquake. This task focused on literacy skills of comprehension meanwhile pupils engage with geographical concepts of earthquake study and learnt key words



Here is the completed work of a pupil where the lesson "reverse-engineered" a graph, reading a completed climate graph and filling in the blanks from the table. This meant correctly reading both axis and understanding the scale of temperature and rainfall statistics.

Evidence 2: Student's completed work reverse-engineering a graph completing a table with missing data

Year 8 Set 3

Climate and Weather: Reading climate graphs to identify trends in temperature and rainfall

Numeracy Cross Curricular Responsibility: Using mathematical graph skills to identify trends in regional climates of Italy.

Reverse-engineering the graph pupils must understand the scale and axis of a given example.

What went well: Pupils used rulers to check they were reading the correct axis accurately. Misconceptions were easily identified.

Issues: Pupils showing misunderstandings are only revealed when answers were checked at the end, leaving it too late to readdress these issues.

Paratoi

Os yw pobl yn gwybod sut i ymddwyn cyn, yn ystod ac wedi trychineb maent yn fwy tebygol o fyw trwyddi. Caiff y daflen *Beat the Quake* (Curo'r Daeargryn) ar y chwith ei ddosbarthu am ddim yn ardal Ffawt San Andreas.

Gwaith Grwp

Mae'n amlwg o'r wybodaeth fod California yn cymryd bygythiad daeargrynfeydd o ddifrif. Mae llawer o ardaloedd eraill sydd mewn llawn cymaint o berygl ond heb baratoi'n effeithiol.

1. Darllenwch Cyn ac Wedi'r Daeargryn.
2. Uwchleuwch y cyfarwyddiadau pwysicaf yn eich barn chi.
3. Trefnwch y cyfarwyddiadau yn ôl pwysigrwydd drwy eu rhifo e.e. 1-5

This success criteria was for a lesson where pupils work in pairs to create a presentation for LEDC residents to prepare for an earthquake. Pupils were given a Chromebook between pairs and given the criteria to create a digital PowerPoint. This included collecting the information online, and suitable formatting and pupils added moving GIFs, transitions and information.

Evidence 3: Success criteria for digital project creating a presentation in pairs

Year 9 Set 1

Tectonic Activity: How to survive an earthquake in an LEDC

Digital Competency Cross Curricular Responsibility: Pupils designed their presentations using Chromebooks and Microsoft PowerPoint. They must format the presentation using information researched online, typed up correctly, images and designed simply for understanding.

What went well: Pupils followed and exceeded success criteria, adding moving GIFs and Videos to the presentations. They also gathered all relevant information online and used this cohesively and displayed effectively.

Issues: Collecting Chromebooks from another class and setting up consumed the first 10-15 minutes, pupils enjoyed independent learning however did require more monitoring in case misunderstandings arise (checking screens.)

Blend of Approaches/Direct Teaching

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Amser	Gweithgareddau/Methodoleg/Cysyniadau Allweddol (Rôl yr Athro – gan gynnwys pwyntiau dysgu allweddol a chwestiynau allweddol)	Tasgau Disgyblion (Rôl disgyblion – gan gynnwys strategaethau gwahaniaethu, ymgysylltu ag asesu ffurfiannol a gwaith cartref)	Adnoddau (Gan gynnwys gofyniad lechyd a Diogelwch)
Cyfnod agoriadol (gyda chysylltiadau â dysgu blaenorol)	Cwestiynu dosbarth cyfan ar datblygiad a diweithdra o'r wers cyn. Esbonio'r bwrpas y wers a'i chysylltiad â'r dasg asesu.	Atefio'r disgyblion o'r wers cyn.	Pwerbwynt
Addysgu a Dysgu Craidd	Sgwrs dosbarth i archwilio'r nodweddion ffisegol a dynol sy'n gysylltiedig â'r rhaniad gogledd / de. Ateb cwestiynau llyfrau	Ateb cwestiynau i asesu dealltwriaeth blaenorol ac mynd i'r afael ag unrhyw camdybiaethau.	Pwerbwynt Llyfrau

Here is a basic lesson plan from the beginning of the teaching experience, where the starter and core learning was teacher-led directly explaining the contents. The lesson consisted of "teacher talk" with the interruption of relevant questioning intervals. Pupils were required to listen and then answer in their booklets.

Evidence 1: Direct Teaching lesson plan early in the teaching experience

Year 8 Set 1

Development Geography in Italy

Direct Teaching Method: Dictation of information, pupils must listen to the concepts and key words and then remember these when answering questions in the workbook as the main task.

What went well: Pupils were not disruptive when sitting and listening to information. Questions were attempted and most of the information was remembered.

Issues: Disengagement was high as pupils got visibly bored of listening to key definitions and concepts. Responses from the workbook were not answered thoroughly and retention of information was not the best.

DECHRAU Lle mae'r daeargryn yn dechrau o dan y ddaear	CANOLBWYNT Enw'r llinellau egni sy'n teithio allan i bob cyfeiriad o'r daeargryn	TONNAU SEISMIG Enw'r pwynt uwchben y canolbwynt ar wyneb y ddaear
UWCHGANOLBWYNT Enw'r offeryn sensitif sy'n mesur daeargrynfeydd	SEISMOGRAFF Enw'r raddfa sy'n mesur difrod daeargrynfeydd	GRADDFA MERCALLI Cramen y ddaear yn crynu
DAEARGRYN Enw'r raddfa sy'n mesur maint ac egni daeargrynfeydd	GRADDFA RICHTER Platiau yn rhwbio gyda'i gilydd i greu gwasgedd ac egni	SYMUDIAD PLATIAU DIWEDD

This is a template for a game of dominoes where key words related to earthquakes and monitoring tectonic activity. Pairs must match the dominoes correctly in a line from start to finish. This is a student-led pair activity where little monitoring was required and the vast majority were successful quickly.

Evidence 2: Worksheet for pair work on tectonic key words

Year 9 Set 3

Tectonic Activity: Earthquake Dominos

Teaching approach: Pair work key word revision

What went well: Pupils enjoyed working in pairs learning to match definitions and bounce ideas off each other. The vast majority of pairs got the dominoes matched up and understood what they were reading.

Issues: Due to the visual aspect of the task some mixed up definitions so photos with the definitions in future would help. The approach itself had little disruption compared to individual work where pupils get distracted, however this task/game may also be better adapted for bigger groups.

Amser	Gweithgareddau/Methodoleg/Cysyniadau Allweddol (Rôl yr Athro – gan gynnwys pwyntiau dysgu allweddol a chwestiynau allweddol)	Tasgau Disgyblion (Rôl disgyblion – gan gynnwys strategaethau gwahaniaethu, ymgysylltu ag asesu ffurfiannol a gwaith cartref)	Adnoddau (Gan gynnwys gofyniad lechyd a Diogelwch)
Cyfnod agoriadol (gyda chysylltiadau â dysgu blaenorol)	Ailadroddi pwmpas y cyflwyniad a beth ddylai wedi cael ei chwblhau cyn belled Ateb unrhyw gwestiynau cyn dechrau		
Addysgu a Dysgu Craidd	Dosbarthu chromebooks, sicrhau mae'r un partneriaid wedi eu dewis Monitro datblygiad y cyflwyniadau a sicrhau mae amseri penodol i orffen rhannau gwahanol		Chromebooks Llyfrau
Sesiwn Gloi	Casglu'r chromebooks, esbonio beth sydd angen am y wers nesaf i gyflwyno	Penderfynu ei rôl yn y cyflwyniad a sicrhau mae popeth wedi ei chwblhau Nodi'r dyddiad yn eu llyfrau cyswllt	Llyfr Cyswllt

This is a lesson plan for a student-led independent learning lesson. There is little information on the plan as the success criteria sheet is given as the starter and students are then left to get in to pairs and begin the task. The pupils enjoyed the autonomy of the lesson and engaged well in addressing the success criteria and organising themselves.

Evidence 3: Student-Led Independent Learning Lesson Plan

Year 9 Set 1

Tectonic Activity: Preparing for an Earthquake

Student Led Teaching Approach: This approach meant that the task was set and success criteria given as a starter and little other explanation. Pupils were allowed to get in to pairs, set up the Chromebooks and design their work independently.

What went well: With the freedom to work creatively, pupils worked efficiently in pairs and enjoyed expressing their own presentation style.

Issues: Chromebooks were harder to monitor, student-led learning was slightly louder and more prone to distraction, but this was easily addressed.

Critical Reflection

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This study aims to explore the implementation and progress made within three specific principles of the new curriculum for Wales, developed from Donaldson's Successful Futures review of education. The curriculum lists 12 "Core Pedagogical Principles" (Hwb 2019) and for the purpose of this study: Assessment for Learning (AfL,) Cross-Curricular Responsibilities (CCR) and Blending Approaches (including Direct Teaching,) are the three this study will focus on. To support my findings, there is a portfolio attached with 3 pieces of evidence for each principle. I chose these principles as I believe AfL has the potential for informal assessing of understanding that is crucial for good teaching practice, and that there is not enough evidence of Digital Competency as a CCR within Humanities. The third principle, blending of approaches, is of significance as it offers exploring new techniques and reflecting on these as a form of professional development. The paper firstly explores the literature surrounding these Pedagogical Principles and later implements and evaluates these in my own practice.

A considerable amount of literature has been published on Assessment for Learning (AfL) in recent years. Previously praised by Vygotsky (1978) for giving clear learning intention and scaffoldings to achieve success, this approach to teaching and learning "creates feedback which is then used to improve students' performance" (Cambridge Assessment International Education, n.d.) Assessment for learning has 4 key areas of interest: "questioning, feedback, shared criteria and self-assessment" as identified by Black et al. (2003.) Much criticism has been on the adaptability of AfL, as stated in Inside the Black Box (Black et al. 1998,) and is one of the reasons teachers do not adopt techniques due to lack of transferability.

The most adopted techniques from the AfL approach however is the use of questioning, and since the first serious analyses emerged during the 1960s there has been rapid development in the categorisation of question styles for AfL research. One approach of categorising questions focuses on "Lower and Higher Order Thinking," by Hopper (2009) is based on effective questioning mainly engaging with the higher steps of Bloom's pyramid (1956) Hopper was criticised by Tofade et al. in 2013 who argued that there is a place for simple lower order questions in the classroom. "Memory, Convergent, Divergent and Evaluative Thinking" was a more complex categorisation by Gallagher and Aschner 1963 but was not adopted by other studies. Gall (1970) created a classification system for such studies and found that most have a similar pattern with differential discourses, which one could deem fairly generalisable. The focus of research now is on *how* questioning is used, rather than the "level" a pupil can reach.

Jones (2005,) argues that "questioning is a process," therefore a mixture of formats is needed. Thirty to fifty percent of a teachers' time in the classroom is questioning time (DePree 1998, Alton-Lee 2003, Naz 2013,) with 96% of questions asked by the teacher (Almedia, 2012) therefore knowledge on encouraging the benefits of questioning is essential (Beven and Sambell 2008, Fusco 2012, Wareing 2012, Cotton 1998, 2003.)

For the purpose of this paper, looking at three specific methods which can be integrated into classroom practice. The first is Socratic Questioning, defined as "disciplined questioning that can be used to pursue thought in many directions...to explore complex ideas" (Paul and Elder 2007.) This is widely discussed as a questioning and discussion method (Lim 1996, Moore and Rudd 2002, Garside 2012, Knezic 2011, 2013.) Socratic questioning also connects abstract and concrete representations of concepts, an important area when discussing larger ideas or arguments in a lesson, which is discussed at length in the National Centre for Education Research Guide by Pashler et al. (2007.) This guide also highlights "prequestioning" (pg.19, Ibid,) setting context for deeper discussion and previous knowledge, which will be discussed later.

The second method is based on the works of Dylan William, a key author in the field of AfL, and wider pedagogical research. His method of "increasing student engagement" during

questioning by picking students' names which are written on lollipop sticks to answer a question is one of great dispute within education. Some have furthered the concept to colour code by ability without the children's awareness. The consensus of the method is mixed however, as Didau (2013) highlights: "the power to choose who answers our questions should be treasured" therefore may undermine the teacher's role (Burnard, 2019.)

A third and final method is William's "whiteboarding" or holding up work for the teacher at once like a class to check understanding, or informal AfL. The method was tried in his documentary "The Classroom Experiment" (BBC2, 2010) and was described as "incredibly useful" to check understanding. This is a well-supported method within modern day pedagogy, as William himself refers to it dating "back to the slate." This has been most adopted and praised as a maths lesson technique (Pembroke, 2018) and is of course also being updated using tablets such as the iPad to show work and is modernising frequently.

The "holding up of work" such as this within the classroom is also a method for graphs where the numerical accuracy can be seen by the shape of the graph for example in Geography to check climate graphs. As a method of assessing numeracy this can be utilised and make this cross-curricular responsibility in other subjects easier to monitor and maintain.

The implementation of cross-curricular responsibilities (CCR) is discussed at length by Rowley and Cooper (2009) in their book on the CCR approach. Specific attention is given to Humanities for being "umbrella subjects" which can easily accommodate literacy, numeracy and digital competency. The successful use of numeracy in Geography specifically has been often contested (Haining 1978, Chapman 2010, Roberts 2010.) Despite these critiques, as stated in the new curriculum, numeracy is based on "logical reasoning" and "investigating relations between concepts," (Hwb 2019,) and one can argue no field is better accustomed to such logic than Geography.

The same can be said for literacy, as Geography demands concise and coherent explanations of abstract concepts and theoretical frameworks around social, economic and environmental issues or conflicts. The adoption of these responsibilities within the new curriculum will be smooth as these skills have always been crucial to the subject. Geographic literacy is discussed within pedagogy (Schoenfeldt 2002, Butler 2014, Utami et al. 2018,) and has highlighted the use of Geography as a way of improving literacy and will help across future "AoLE's" (Hwb, 2019.)

When exploring the third CCR of Digital Competence, the integration of this in to Geography, Humanities and Education as a whole long outdates the introduction of it as a "principle" (Hwb, 2019.) Since the introduction of the interactive whiteboard, a field of its own literature (see Glover and Miller 2002, Smith et al. 2005, Higgins et al. 2007 for comprehensive reviews,) the technology used in education has boomed. Hadjerrouit 2014 criticises the response to this, stating that the multiple perspectives on how to use ICT has complicated teachers' choices in using technology. Another criticism is a study conducted by Hinostroza et al. (2014) which showed most technology was simply for content delivery, such PowerPoint, ineffectively utilising the resources available. When facing the new curriculum, applying more "EdTech" (Department of Education, 2019,) as well as improving professional development through training as promised by Minister for Education Kirsty Williams (Gov.Wales, 2019.)

Along with the introduction of digital competency, the technology also offers a whole new platform to implement new teaching methods and approaches. A "blend of approaches" is part of the "pedagogical principles" of Donaldson's curriculum (2015,) and there is an enormous volume of literature on teaching techniques to achieve this (see Ko and Sammons 2013 for summary.) For the purpose of this study, teaching methods are divided in to "student-led" (such as independent work, pair and group work) and "teacher-led" (dictation and questioning) as was common amongst the literature (Adler et al. 2004, Ameliana 2017, Serin 2019.)

Much praise is given for using peer and group work to foster a learning culture, and the theory of "More Knowledgeable Other" based from Vygotsky's 1930's work. By using seating

plans, selective groups and utilising pupil ability, teachers can better accommodate the varying abilities of the classroom and incite “peer teaching” (Butte et al. 2017.) One approach is to allow autonomous learning, explaining a task and allowing pupils to research independently. This approach combined with the new digital framework means online research and learning may revolutionise teaching in the classroom. Despite this however, there is much praise still for Direct Teaching, with Price and Nelson (1999) describing the “I Do, We Do, You Do” method, incorporating direct teaching with live modelling before pupils try a task for themselves. There are faults with Direct Teaching (Class Teaching 2015,) such as lowering engagement and recall (Matbury 2014, Sun 2016, The Careers & Enterprise Company 2016.) Overall the idea of “blending approaches” as a pedagogical principle addresses concern for both student and teacher-led methodologies and allow teachers the freedom to explore and experiment with various techniques.

When considering my personal implementation of new approaches and theories, first area of progress and reflection was Assessment for Learning. In Evidence 1 in AfL one can identify engagement with “pre-questioning” (Pashler et al. 2007,) where the lesson was started assessing the level of understanding entering the room and information they recall from previous lessons. This engages their long-term memory and recall, keeping in line with Ebbinghaus’s “forgetting curve” (1885,) ensuring key words and concepts are revisited, without overworking “their cognitive load” (a theory developed by Sweller, 1998, discussed in Shibly and West 2018.) Overall the questions went well, however there was no room for development of AFL and only showed as a “memory test” rather than deeper understanding to be recognised.

The second method to recognise understanding was using the work of Dylan William (BBC2, 2010) and the “show me” whiteboard AfL technique. Here in Evidence 2 of AfL pupils were provided templates for a graph and figures to plot, and each step was live modelled correctly on screen and pupils held up work to be visually assessed. This worked efficiently as by sight and shape of the bar graph issues could be identified quickly and the pupil knew what area needed double checking. Misconceptions were easily addressed, and the range of attainment was clear. At some points many had the same mistake which could be addressed as a class (forgetting an axis title for example) so the pace could be adjusted, and vice versa when everyone showed the graph correctly there was less explaining to go over. This method worked well with visual work, however would not be effective with lengthy pieces of work, such as comprehension and writing which would be impossible to check on sight.

The final method used in Evidence 3 of AfL follows research further in to questioning from the book Making Every Geography Lesson Count (Enser 2019,) its chapter on Questioning (Ch.6 pg. 107, Ibid) as well as further research on questioning methods, I decided to try structuring questions before the lesson. Here the presentation slides were printed with questions written next to each slide when class discussion was implemented. This, similar to pre-questioning previously, linked older lessons to the topic and helped keep questioning relevant, purposeful and checked understanding. By planning the questions before the lesson, the most useful questions for AfL can be selected which will indicate whether a pupil doesn’t understand instantly to the teacher. A supply of questions to hand also assisted with ensuring most of the class has answered a question by the end, thus improving class engagement.

Another lesson which improved classroom engagement is the literacy lesson in Evidence 1 for CCR. Here I created an article using real newspapers, simplified and translated to Welsh and added pictures outlining Japanese school earthquake protocols and safety measures. The purpose of the lesson was to get a better understanding of living with tectonic hazards, and to do so autonomously by completing the comprehension task. This was enjoyed by the pupils as they found the idea of evacuation “slides” in school exciting, and due to the way it was presented, they engaged with literacy skills and developed without losing interest during the task. In terms of addressing literacy as a CCR this worked well as they also gained relevant geographical knowledge and engaged with language used within the subject whilst improving their overall language skills.

The second CCR engaged with in Evidence 2 is numeracy. In this lesson I provided a

completed climate graph along with a table of the data it was created from and removed certain figures from the table. The pupils were required to “reverse-engineer” the climate graph and read the bars to complete the core data. This not only placed numeracy in to real life context (temperatures and rainfall in regions of Italy) which incorporated creating “ethical informed citizens” of the world (Donaldson, 2015,) it also coincided with their maths lessons which had been covering graphs at the time (information given from a colleague in the Maths Department.) The unification of themes across Geography and Maths at the time meant the recall of the class was much stronger and made incorporating this CCR much easier. By live modelling how the graph should look, it removed the “maths anxiety” (Newstead 1998, Scarpello 2007, Chinn 2009, 2012,) and was received well by students.

The third CCR of Digital Competency in Evidence 3 was the success criteria for a project in pairs, where pupils had to create an informative presentation for an LEDC country to prepare for an earthquake. The success criteria (Evidence 3) was given to each pupil to ensure their presentation had each element, and very little other instruction was given. Chromebooks were booked and allocated between pairs to gather the information, images and sources they needed, and create a fully formatted PowerPoint presentation. The pupils were pleased with the task and each pair approached the task differently, independently organising their work. In terms of digital skill every group exceeded expectations of basic formatting and presentation, and added moving GIFs, clips and animations to their presentation. The quality of digital work was very high, and the success criteria of the task was met. The incorporation of Digital Competency as a responsibility is positive, however it was the hardest principle to employ due to demand of resources and inconvenience (the time loss in setting up laptops in the class) which is the concern of many teachers. With better digitised resources available (especially in the Welsh medium) in future, one can expect this principle and CCR to be achievable smoothly.

One of the most progressed principle during the experience of creating this portfolio was to employ a broad “blend of approaches.” In Evidence 1 in Teaching Approaches simple direct teaching was used, to develop confidence and getting to know the pupils at the beginning of placement. In the lesson I gave basic definitions directly to the class and found the pupils receptive to simply being given the information. This was a negative habit to instil, getting the class out of the habit of being “spoon fed” and reinstating engagement and participation in later teaching methods was difficult. This incorporates ideas from Carol Dweck’s Growth Mindset (2006) where the pupils develop a “fixed mindset” that there is no need for effort in answering questions or asking them, as all will be given to them regardless, leading to a lack of effort, engagement and eventually lower attainment.

In the second lesson given as an example (Evidence 2 Teaching Approaches) pair work is experimented, with elements from the “More Knowledgeable Other” previously discussed (Vygotsky 1978.) The lesson began with going through basic definitions related to monitoring earthquakes as a class, and then discussing these key words and concepts to complete a set of “dominoes.” I made a set per pair and the whole class adopted the activity quickly. Discussion remained on topic the whole task and relating to “visual AfL” (William’s show me method) I could easily monitor which pairs matched dominoes incorrectly and needed clarification. The approach of working in pairs meant fewer questions for the teacher and more discussion of what they were reading first, engaging problem-solving skills as well as understanding of geographical terms, which meant it worked well as a teaching approach. Moving forward as an approach, to design tasks with specific pairs in mind, MAT students strategically placed for example, would again improve independent and a learning culture between peers.

The third lesson exploring teaching approaches was a student-led lesson. The lesson plan (Evidence 3 in Teaching Approaches) was from the Chromebook lesson (Evidence 3 of CCR) and aimed to give the pupils responsibility over their own learning. Incorporating student-led pedagogy, the lesson began with a brief explanation of the project given and the success criteria, and then little more was given by the teacher. Pupils enjoyed the creativity opportunity (as well as the digital element previously discussed) and results after an hour were impressive. Had the lesson been directed by the teacher as to what to put on each

slide, I strongly believe progress would have been much slower and reluctant. By switching the learning dynamic of the class, pupils were motivated to complete the work in order to “mess about” with GIFs and improving the layout and special effects. I will continue to develop this method in future by designing more independent tasks which give the pupils the change to lead their own learning and self-regulate progress.

It is not only this method I will be expanding on in future, as this study has uncovered many approaches, tools and styles that could be used in future professional development. I will continue in future to plan and structure purposeful questioning before lessons and have in mind who I wish to ask. I will also explore the work of Dylan William that inspired this AfL approach, the lollipop stick concept to test and possibly further by colour coding with ability. The “show me” whiteboards from William is also a recommendation to continue with in future as it eased the assessment of whole-class understanding and helped set the pace of the lesson, an area which has been difficult to regulate since starting teaching.

A strong motivator for future development taken from this research however is to remain a learner myself. Reading and implementing new techniques, however successful, is a good basis in keeping up to date with pedagogical research. In order to make further progress with AfL, as well as all 11 other principles, one must continue to adopt and adapt a blend of approaches and utilise what works.

The final recommendation for the future, taking the results of this study into account, is one of many teachers and departments with the new curriculum in mind, and that is to focus on engaging with digital competency. The new curriculum recognises the lack of consistency with technology across the subjects, and that technological skills are not “simply an IT problem.” I will first implement more digital elements by trying out AfL software such as Kahoot quizzes and Microsoft Quizzes. Becoming a Microsoft Innovation Educator in 2019, I can develop my technological understanding with online courses provided by Microsoft and continue professional development in preparation for the Digital Competency Framework in order to test it in my lessons.

To summarise, I believe that the emergence of the 12 new principles offers teachers specific pedagogical areas of “what makes a good teacher” which helps go on to constructing lessons or approaches that meet the needs of the classroom. By categorising in to 12 areas teachers must provide for pupils, it is now much easier to identify where professional development is needed, and one’s strengths within those principles. From this study the efficacy of these principles is clear and is a great framework for professional development.

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