

Overview

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Assignment Title: Prepare a portfolio which illustrates a critical reflection of progress made on the planning and implementation of three pedagogical principles.

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Activating Prior Learning

Monday, December 9, 2019 9:44 AM

FIG 1: Lesson Plan – Populations: One Child Policy

- Taught to Year 9 pupils (age range 13-14)
- Focus of lesson was to look at population problems by introducing students to the One Child Policy in China. Students to develop awareness and understanding of human impacts and to critically think of effective problem solving solutions.
- Starter game used to engage interest, lesson then focused on shock tactics to illicit relevant questions from students. Writing task used to summarise their learn and improve writing skills.
- Lesson plan required more detail on what I students should gain in each stage of core section.

Time 1 hour	Activities/Methodology/Key Concepts (Teacher's Role – including key teaching points, differentiation strategies and key questions)	Pupil Tasks (Pupils' role –including differentiation, engagement in formative assessment and homework)	Resources (Including Health and Safety requirement)
Opening phase (with links to prior learning) 10 mins	Ask all pupils to stand up. Ask specific questions such as anyone with an older brother please sit down. Ask pupils to look at who remains standing and return to this at end of lesson. Then have the pupils look at the image of the Chinese men together and ask for the image to be analysed.	Pupils to stand and then sit when their personal circumstance requires them to do so. Once the image is on screen analyse what they see and think about why there is only men, and why only male pupils remained standing.	Group involvement and discussion.
Teaching & Core Learning 45 mins	Look at images on the screen and ask pupils to describe what they see. Then teach pupils what the one child policy means, why China have it and some of the methods families use to maintain the OCP and incentives it brings. Then look at the families that choose not to do this – watch video ref hatches and look at info sheet and complete questions.	Critical thinking – what do they see what could it mean? <u>Bring personal thoughts to the one child policy, look at info sheet and extract data as well as APK from the lesson to answer questions.</u>	Group discussion, direct teaching, worksheet task.
Plenary 5 mins	Ask the pupils who were standing at start of lesson to stand once again, ask them to look at their peers, families and think about their friends. What would it mean to their life. Ask pupils sitting down to also reflect on the fairness of this policy. What are pupils thoughts?	Reflection on where they stood or sat at the beginning of the lesson. Decide whether they think it is fair.	Individual thoughts and group discussion.

FIG 2: Lesson Questions

- Questions were simple and straightforward
- Should have had sentence starters on the whiteboard, so pupils could clearly see how they should answer questions.



1. What is China's One Child Policy?
2. Why did they introduce such a radical law? *(Try to include figures)*
3. Has the Policy been successful?
4. What has been a negative outcome of the Policy?

FIG 3: Lesson Reflection

- Starter task worked very well and engaged all students and illicited good questions from the beginning. The content used throughout lesson (images, visuals and teacher knowledge) were good.

- The volume of information was not overloaded and kept at a good pace.
- I identified a need for more writing after each segment of information. Waiting towards the end of the lesson for students to answer the questions with their apk and new knowledge was not perfect. Will amend this for future lessons.
- The plenary worked, but could also have been bettered by having students write down how standing/sitting made them feel. We discussed it as a group but individual written responses would have more meaningful ties to future apk.
- Very successful lesson with a difficult year group. Very controversial topic that could have ended badly (racism etc) but my subject knowledge and continuous comparison to British life and standards prevented lesson from going off track.

Lesson Plan – Phase 1
Evaluation of the Learning Experience
(include references to QTS)

Evaluation of Pupil Learning	
Evidence of Learning (including attitude to learning over time)	The pupils appeared to enjoy learning about this policy in China. They were shocked at some of the information they heard, and were able to connect this to their own lives. One pupil queried whether the policy applied to divorcees who remarried someone without a baby – further research to answer this question needed.
Next Steps for Progress	Next lesson they will look at the problems the population issue, particularly how gender preference has affected life later on.

Reflective Analysis of Teaching and Strategies For Development – including justification/rationale for pedagogical choices	
Evidence of my Effective Practice	A brief look at pupils work I found that great ideas had been written and that there was clear understanding of the policy, and all mentioned and discussed had to some extent been understood and re-written in their words.
Areas for my Development	A lot of teacher led talking – this could have been broken up with individual written tasks for more evidence in their books to refer back to.
Personal Targets for Progress	Add more written work. Discussions were fun and interesting but children are more likely to forget if not written down.

FIG 4: Population Assessment Examples

- The assessment was created previously by the subject mentor – no student teacher input
- I was very pleased with the answers and results from this assessment.
- All students got the first answer correct
- The majority of students were able to answer question two and three to a good standard – often using examples and key words from previous lesson to answer questions which were outside of the resource provided.
- Assessment marking was ½ mark for every valid point

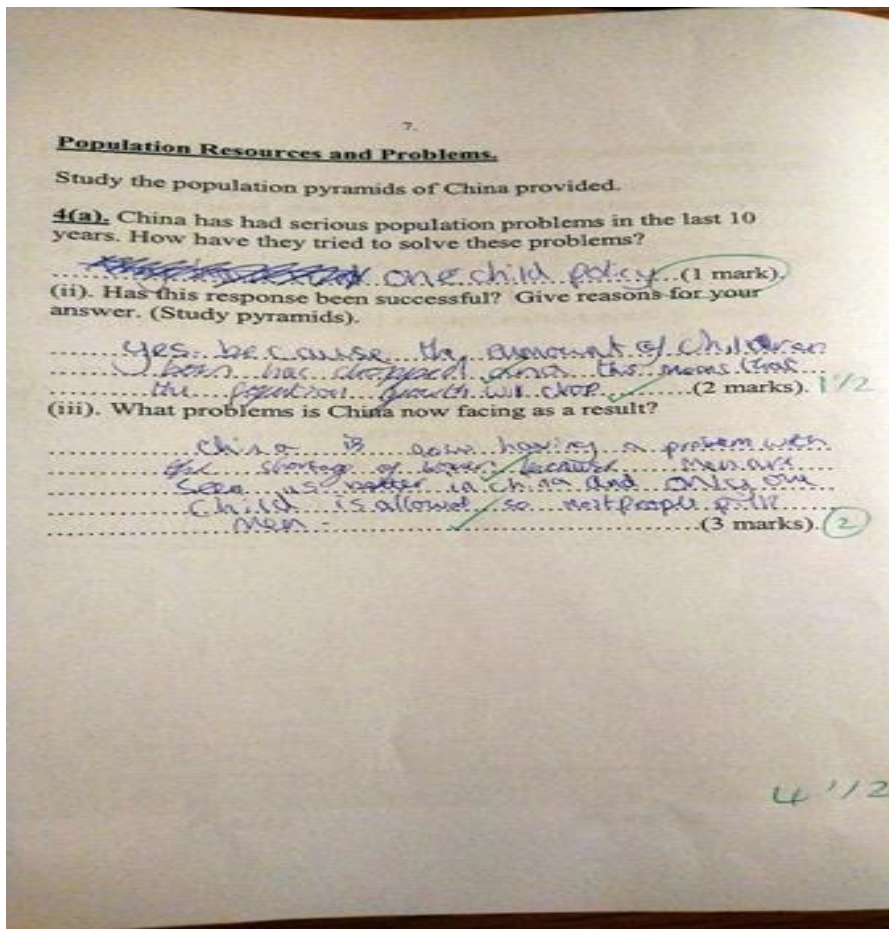


FIG 5: Population Assessment Examples

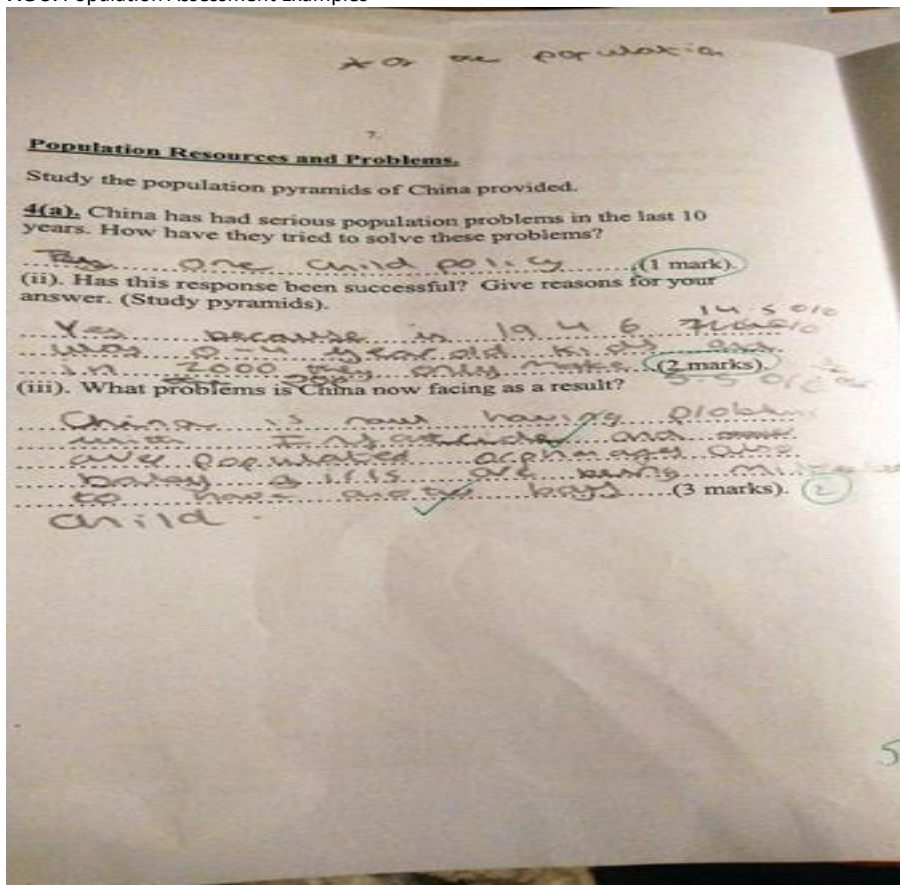


FIG 6: Population Assessment Examples

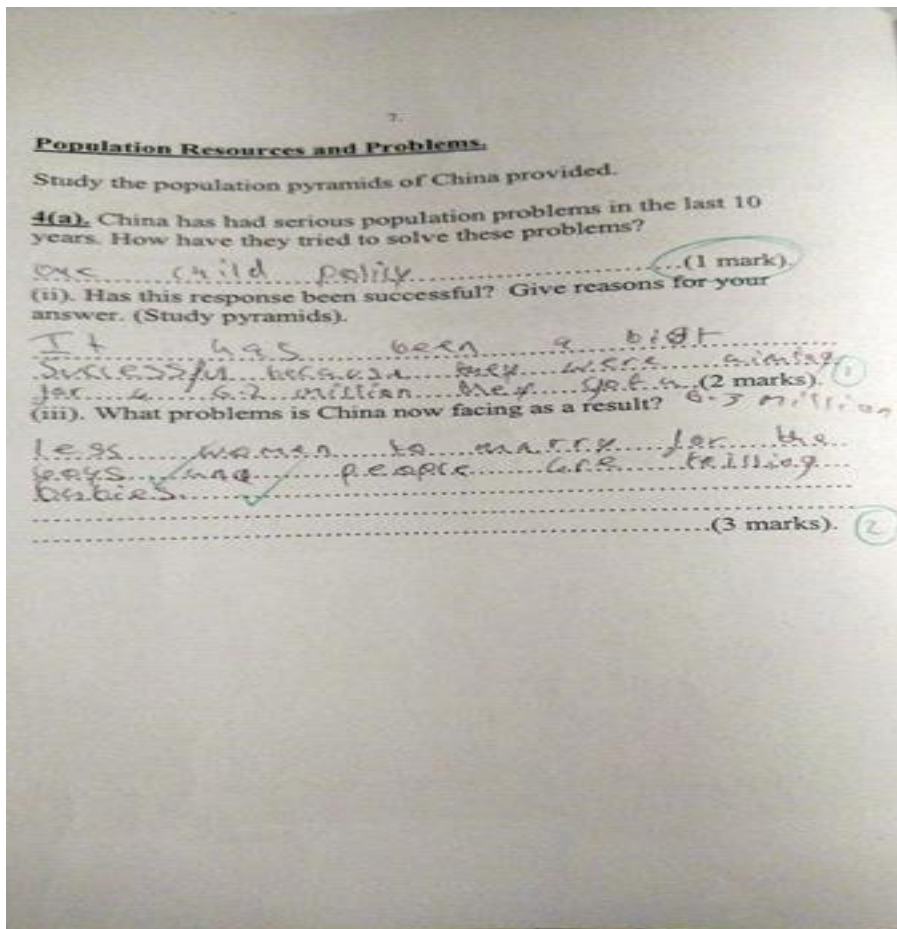


FIG 7: Population Assessment Examples

- I was saddened by no attempt being made on the final question. This was the only student to not attempt this question. All other students received at least $\frac{1}{2}$ mark on all questions.
- Going forward I understand I must ensure all students, particularly ones I identify as struggling, are able to fully engage with my lessons, possibly by finding something else they can compare with to aid in engagement and retention of information.

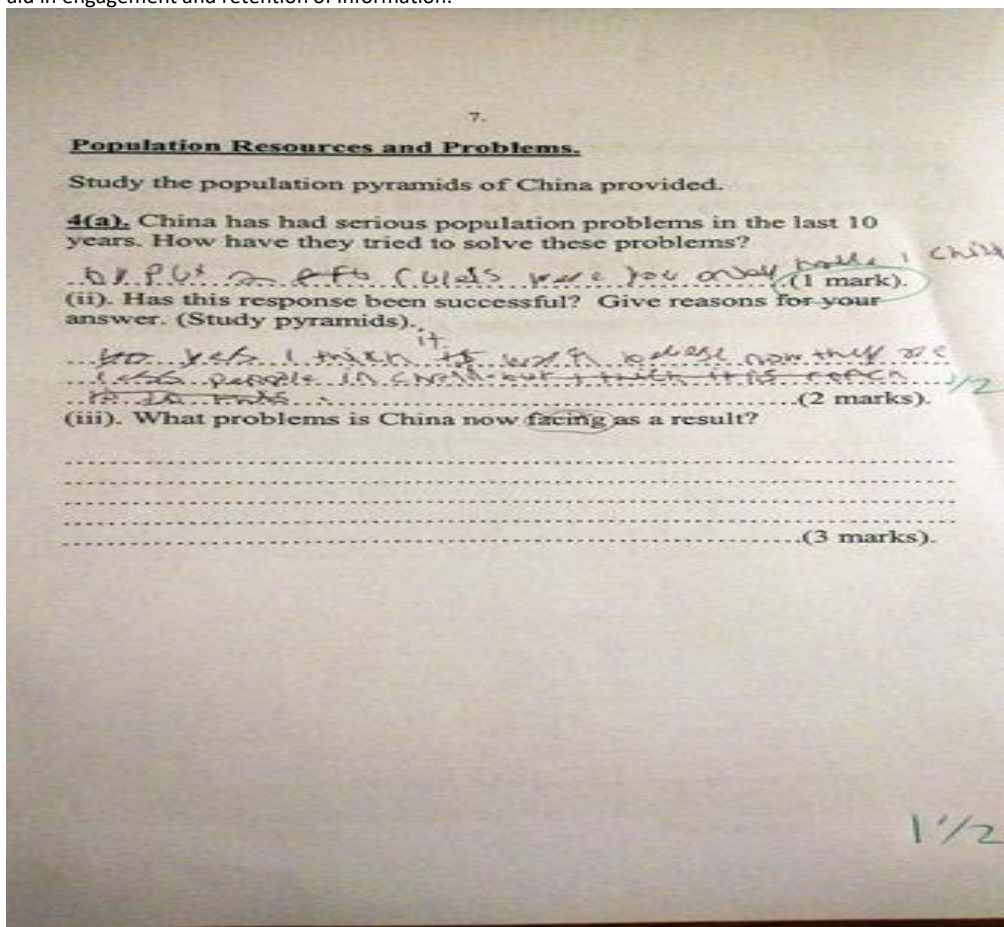
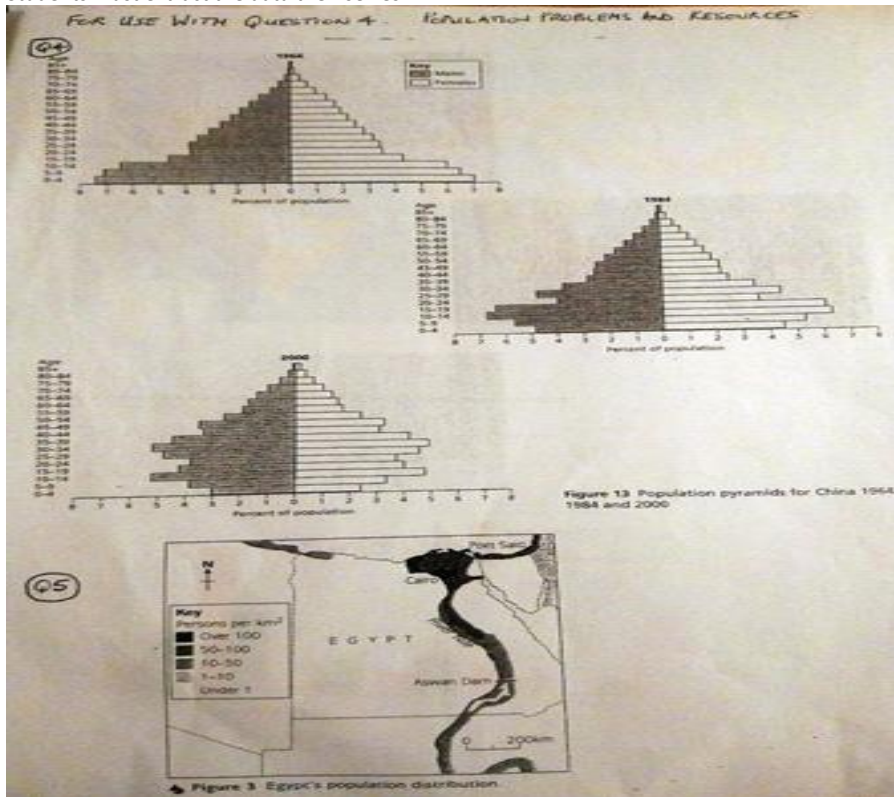


FIG 8: Population Assessment Resource

- Assessment resource is mainly figure related and does not note any specific information
- Students must extract the data themselves.



Assessment for Learning

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FIG 9: Lesson Plan: Sustainability Lesson 1

- Taught to Year 8 pupils (age range 12-13)
- Focus of lesson was to look at sustainability by introducing students to small items that negatively affect the environment and encouraging pupils to think of small changes they can make to their own lives to help combat these global problems.
- Starter task to describe the difference between eco community and rubbish tip, lesson then focused on small objects within their immediate lives and homes they can make changes to, end task to review dollhouse task with pupil suggestions and add any additional details.
- Lesson plan required more detail on what students should gain in each stage of core section.

Time 1 hour	Activities/Methodology/Key Concepts (Teacher's Role – including key teaching points, differentiation strategies and key questions)	Pupil Tasks (Pupils' role –including differentiation, engagement in formative assessment and homework)	Resources (Including Health and Safety requirement)
Opening phase (with links to prior learning) 10 mins	Starter – Look at picture of rubbish tip and bedzed community, describe what they see. Which would they prefer to live in.	Describe what they see in the images.	Group Discussion
Teaching & Core Learning 40 mins	Look at picture of bags and discuss which bags are better and why. Identify 5 different ways of being sustainable. Label dollhouse to identify ways they can be sustainable at home, in their capacity as young people.	Be able to identify the difference and generate their own thoughts on why changes are needed and how they can do this.	Group discussion Individual tasks
Plenary 10 mins	Review dollhouse and see what pupils have come up with.	Pupil engagement	Group discussion and review.

FIG 10: Lesson Plan: Sustainability Lesson 2

- Focus of lesson was to look at sustainable communities and highlight what they do to be eco friendly and then compare this to how we live in our villages.
- Starter task go through previous lesson and determine whether any pupils have made any positive changes to their lives, view bedzed video and recap with info sheets what the eco communities have and then complete worksheets. End task to review work and share ideas.
- Lesson plan required more detail on what students should gain in each stage of core section.

Time 1 hour	Activities/Methodology/Key Concepts (Teacher's Role – including key teaching points, differentiation strategies and key questions)	Pupil Tasks (Pupils' role –including differentiation, engagement in formative assessment and homework)	Resources (Including Health and Safety requirement)
Opening phase (with links to prior learning) 10 mins	Starter – APK what is sustainability	APK – be able to define what sustainability is	Group Discussion
Teaching & Core Learning 40 mins	Look at BedZED community – village Create their own version	Be able to apply what they have seen and learned to developing their own eco community	Group Tasks
Plenary 10 mins	Review their work	Explain why they came up with their ideas	Group discussion and review.

FIG 11: Sustainability Lesson 1 Workbook Examples

- Great examples used of how to make our area more sustainable

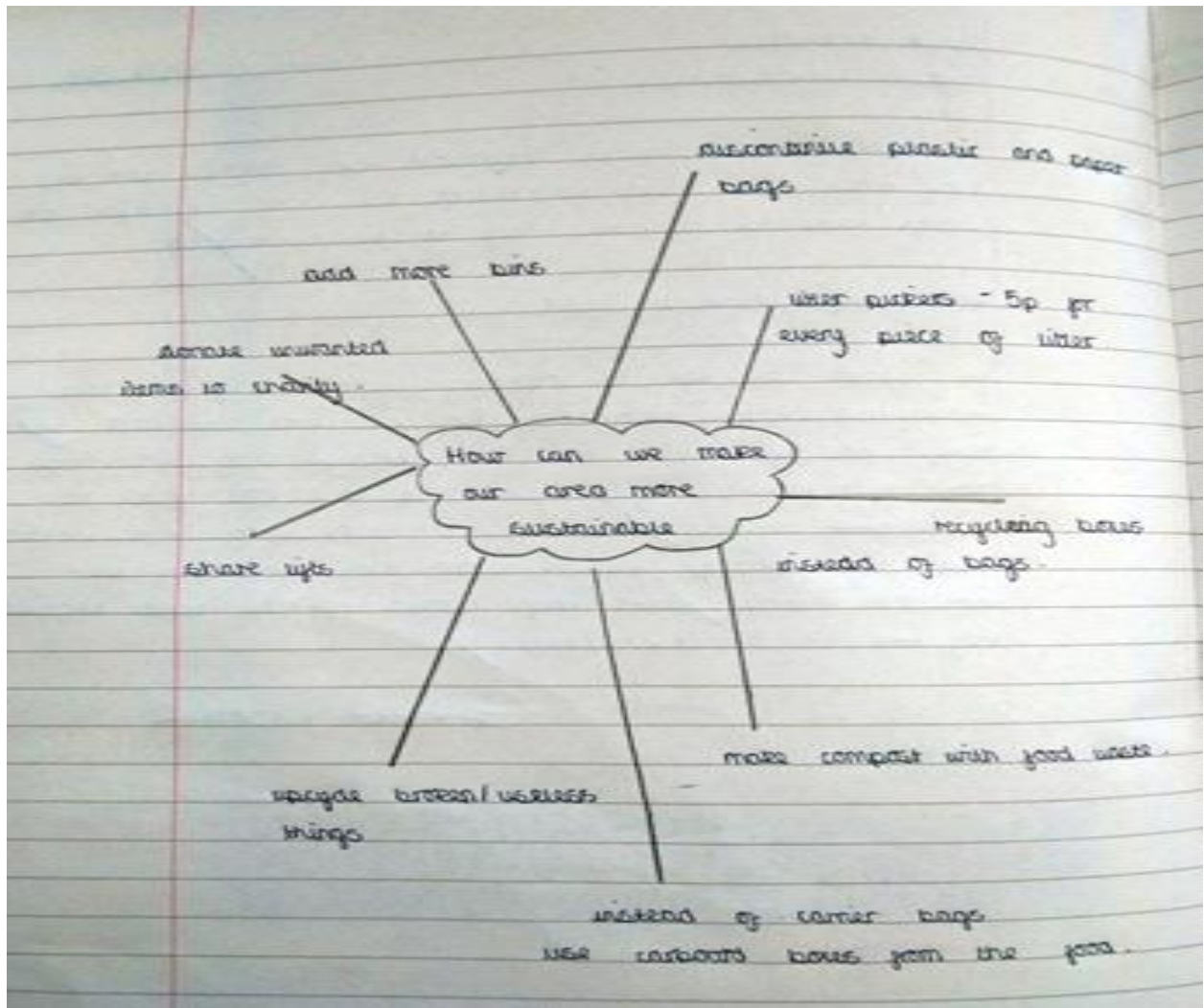


FIG 12: Sustainability Lesson 1 Workbook Examples

- Great example of why some types of bags are better or worse for the environment

Cross Curriculum Responsibilities

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FIG 15: Lesson Plan – Map Skills: 6 Figure Grid References

- Taught to Year 7 pupils (age range 11-12)
- Focus of lesson was to further develop grid reference skills by look at how to record and find using 6 figures.
- Starter task was to recap 4 figure grid reference by utilising whiteboard and placing symbols in whiteboard and giving 4 figure reference or giving 4 figure reference and then placing symbol.
- lesson then focused on breaking down grid and into ten additional boxes to find 6 figure reference. End task with group activity recalling 6 figures using same method as 4 grid starter task.
- Lesson plan required more detail on what I students should gain in each stage of core section.

Time 1 hour	Activities/Methodology/Key Concepts (Teacher's Role – including key teaching points, differentiation strategies and key questions)	Pupil Tasks (Pupils' role –including differentiation, engagement in formative assessment and homework)	Resources (Including Health and Safety requirement)
Opening phase (with links to prior learning) 15 mins	APK: Recap 4 figure GR with questions. Check pupils remember saying 'along the corridor and up the stairs'. Check pupils can identify places on the map using 4 figure GR. Introduce 6 figure GR. Explain reason for 6 figure GR is to identify places in 'busy' maps and show. Break down with along the corridor first, before introducing up the stairs. Explain that most maps do not break it down so you must break it down in your head.	Pupils to recap by answering questions Interactive, checking if students can recognise what is in place. Eg. Lifeboat Station/Pier. 63 – 3 and 87 – 5.	Whiteboard Whiteboard and worksheets
Teaching & Core Learning 35 mins	Pupils to work through exercises 1 and 2 on question sheet (10 minutes). On whiteboard have children place symbols on board (5 minutes).	Complete worksheets and self assessment marking. Pupils to identify 6 figure GR.	Blue worksheet 1 and 2 to be completed before class Q&A. Extension questions for those ahead.
15 minutes Plenary	Review 6 figure grid references as a class	Review 6 figure grid references as a class. Have pupils put objects on board and peer to identify where (using 6 figures) the object is on the map.	Whiteboard

FIG 16: Lesson Reflection

- More class recall required ensuring all pupils aside from the pupils who understand are volunteering answers.

Lesson Plan – Phase 1 Evaluation of the Learning Experience (include references to QTS)

Evaluation of Pupil Learning	
Evidence of Learning (including attitude to learning over time)	Pupils were engaged and keen to answer questions in front of peers during the recap of 4 figure grid references and when moved onto 6 figure grid references. Pupils then carried out the activity with ease and the majority put their hand up if they were confused or to ask whether they could move onto the next question.
Next Steps for Progress	Next lesson will recap 6 figure grid references using the whiteboard grid reference and stickers. Then will move on to a map of Swansea before answering the questions on the blue sheet.

Reflective Analysis of Teaching and Strategies For Development – including justification/rationale for pedagogical choices	
Evidence of my Effective Practice	Pupils mostly remained engaged throughout the lesson and were able to answer the questions in the activities following my explanation and guidance. All pupils had completed questions 1 and 2 before the lesson ended with many that completed all 4 questions.
Areas for my Development	Need to slow down the starter, be clear and confident in my instructions and not be afraid to do more example questions if needed. Be more clear about what I am going to say and do before I say it. Use natural pauses and breaks to check prompts.
Personal Targets for Progress	Introduce myself to a new class and ask the pupils to say their name before answering any questions. This will help to learn pupil names faster.

FIG 17: Lesson Powerpoint Example

- Visual to aid pupils in seeing how a grid reference needs to be further broken down into 10 to pinpoint exactly where a place is on the map.

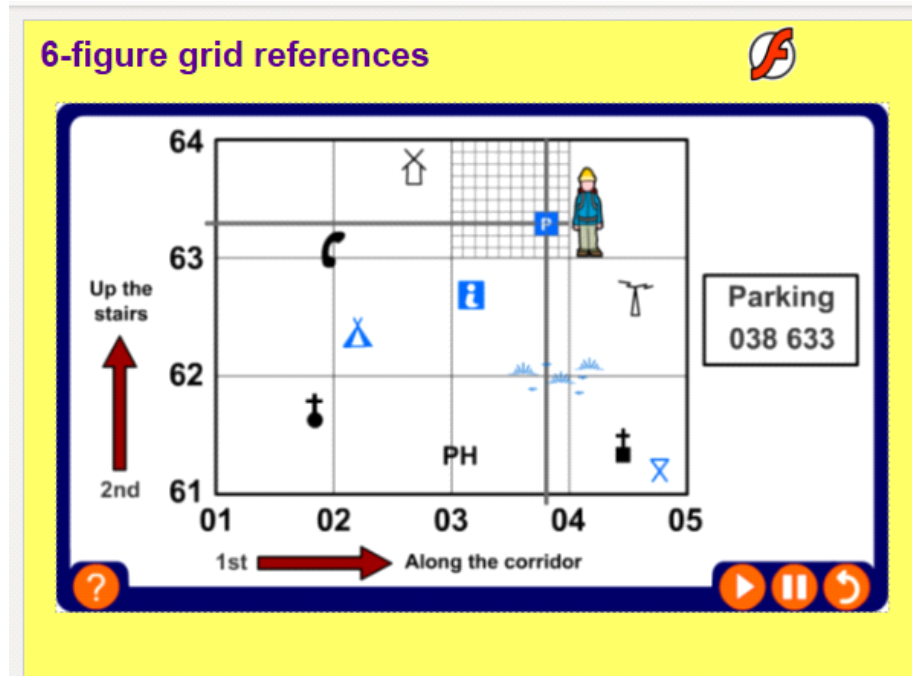


FIG 18: Map Skills Assessment Examples

- Student did not recall how to do 6 figure grid references and only partially remembered how to do 4 figure grid references.

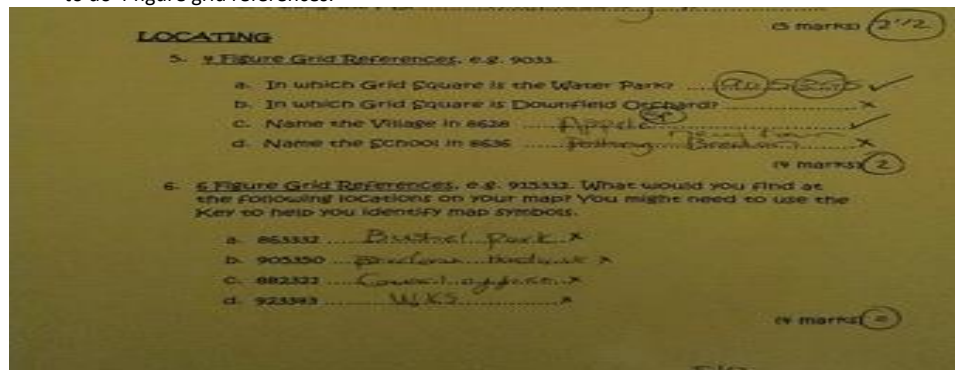
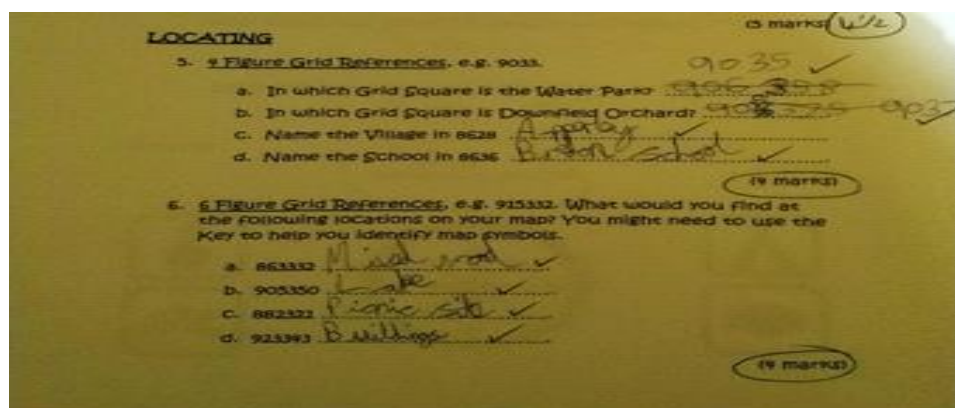


FIG 19: Map Skills Assessment Examples

- Student successfully recalled how to complete 4 and 6 figure grid references



Prepare a portfolio which illustrates a critical reflection of progress made on the planning and implementation of three pedagogical principles.

The Professional Teaching Experience (PTE) was undertaken in a secondary school within a small village on the outskirts of a large city. The school has a high percentage of Special Educational Needs (SEN) and Free School Meals (FSM) pupils, in addition to high numbers of in-year transfers from neighbouring schools and counties. The mixed-gender school is below capacity by a third and currently has around 480 pupils enrolled. All classes are mixed ability and range in size of ten to twenty-five pupils (Mylocalschool.gov.wales, 2019). The school was recently inspected by Estyn and received an outstanding report (Estyn, 2019). The critical reflection of progress made on planning and implementation will be based on pedagogy Principle 5: 'Good teaching and learning sets tasks and selects resources that build on previous knowledge and experience and engage interest', Principle 7: 'Good teaching and learning means employing assessment for learning principles' and Principle 9: 'Good teaching and learning regularly reinforces Cross-curriculum Responsibilities, including literacy, numeracy and digital competence, and provides opportunities to practice them' and (Donaldson, 2019, pp. 67, 68, 69). To preserve the identity and credibility of the teachers and pupils the PTE school will be referred to as School X throughout this essay.

Principle 5

The lesson objective in School X was to explore population issues and investigate problems and effects this causes, in addition to creating solutions and developing awareness and understanding of long-term impacts. The lesson mainly focused on China's One Child Policy, however where possible reference to similar UK law and policy was used e.g. change in child benefit entitlement to first two children only. UK references was important in introducing new material as pupils had readily accessible background knowledge that could be used to compare with this controversial topic. Manageable amounts of new information could then be taught and learned with more meaningful links to pupils' lives (Rosenshine, 2012, p. 1). The starter task required pupils to remain standing at their seats in order to 'play a game', this immediately invoked interest and enthusiasm particularly from pupils who generally 'opt out' of participating. As outlined in Fig 1 the only pupils to remain standing were the eldest male in their families. The core lesson explored why those students remained standing by direct-teaching, images, video and group discussion before answering a series of questions (Fig 2). The plenary focused on reflection of their thoughts on fairness and personal impact the policy could have on pupils.

There are several ways to teach a student using methods such as direct teaching, informal instruction and inquiry-based learning. There are also many teaching strategies to support this such as visual aids, audio, practical's and group work. Good teaching combines a range of these methods and strategies to convey this, for example students watch a video on Chinas 'baby-hatches' while the teacher provides commentary on what is being shown, taking care to ensure the two complement one another (Deans for Impact, 2015, p. 3). Good teaching also selects meaningful tasks and resources that tap into student's prior knowledge. Activating prior knowledge is a critical tool in developing new knowledge, as this can aid digesting new material and transferring this information from short term working memory to long term retrievable memory where it can be stored and reactivated

(Deans for Impact, 2015, p. 3). Research suggests there are seven progression steps to the learning and retaining information cycle, the first of these is 'reach' (Sprenger, 2018, p. 18). Introducing new topics is not a simple process, particularly if students believe learning is boring, has no personal benefit or little effect on their lives, teachers must find a way to 'reach them in order to teach them' (Sprenger, 2018, p. 23). Using analogies or comparisons that evoke emotion by connecting the topic to pupils' lives is one way of doing this, in addition to memorable tasks such as the starter game where all students participated regardless of whether they remained standing or not. Continuous repetition of key facts and reference to information is needed throughout a lesson to begin building an internal portfolio of knowledge. Allowing time to reflect on their learning is also needed and this could be encouraged by using comparison in their own lives to better understand impacts and outcomes of the topic they have learned ((Sprenger, 2018, p. 59). However, methods used to 'reach' pupils such as comparison to personal lives may not work, if the pupil has no knowledge or experience in the example that they can connect to. Within the classroom they may appear engaged, interested and even contribute some answers, but their retention of information is limited as they have not connected to the topic by activating prior knowledge. When measuring learning through assessment as shown in Fig 7, if a student has not been able to fully engage with a lesson or topic, they will be unable to recall relevant information even if they did participate (Hattie and Yates, 2014, p. 66). When setting tasks and selecting resources it is difficult to know whether students will have the prior knowledge expected of them, but by choosing local or age appropriate comparisons the teacher is more likely to 'reach' and illicit engagement from a high number of pupils ready and able to learn.

The guided approach of manageable amounts of new information and comparison to local knowledge successfully aided students to recall information learned during an end of topic summative assessment as shown in Fig 4, 5 and 6. All students successfully answered the formal term for how China tried to resolve population problems. A high percentage of students were also able to apply information learned through different teaching methods that were outside of the resource given during the assessment as shown in Fig 8. Pupils referred to cultural inequality between genders, infanticide, baby-hatches, over-populated orphanages and the impact on marriage for men. To improve the lesson pupils could summarise their learning more frequently after each section of new material has been introduced. Research suggests presenting small amounts of new information as highly effective, however this requires teachers to assist pupils in practicing this new material and mastering its content before moving on (Rosenshine, 2012, p. 2). To succeed, frequent written tasks between materials is needed for pupils to develop coherent summaries of information they can re-read, understand and digest. Teacher modelled answers would aid in developing writing skills and the ability to grammatically and structurally conclude their findings (Rosenshine, 2012, p. 4).

Principle 7

Raising standards of learning in the school environment is an important priority the Government have tried to improve through changes in summative assessments. Research suggests priority should be given to what occurs within the classroom, as this is where the learning that is later measured takes place (Black and William, 2001, p. 1). The self-esteem of pupils is highlighted as an important element when assessing pupils. Grades and levels create negative impacts as it de-motivates learners and further teaches pupils to believe they lack ability (Black and William, 2001, p. 4). Before grades and levels are used teachers could perhaps utilise other forms of assessment for learning during topics that could improve pupil performance. Positive and encouraging feedback and paying attention to the quality of advice teachers give pupils on how to improve work, in addition to regular self and peer assessment. These are effective teaching strategies that can aid pupils in grasping

what they need to achieve and reduce pupil desire to simply get the 'right answer' without understanding of the task (Black and William, 2001, pp. 6-7). Responsibility for implementation and success ultimately falls to the deliverer; the teacher and the receiver; the learner.

The delivery of effective teaching by assessing the learning of pupils through methods such as feedback and marking of workbooks is not without critics to its operational implementation. *Inside the Black Box* uses scientific research to support theories and recommendations, however in response to the review, E.M. Sebatane identifies aspects not adequately discussed. Teachers have opinions and judgements that undoubtedly influence teaching styles and interaction with pupils and may impact, positively and negatively, any feedback or methods used in the classroom. The response refers to intense training some teachers required before they felt comfortable in allowing pupils to self-assess. (Sebatane, 1998, p. 127). This highlights a significant issue evidenced by research that indicates 'pupil learning and performance may be affected by what the teacher thinks they are capable of', resulting in students performing to the expectation of the teacher and not their actual ability (Dweck, 1986 cited by Sebatane, 1998, pp. 127-128). It could be argued that fairness is a staple ingredient to human activity, if a person thinks they have been treated fairly they may be more likely to respond positively, however if a person thinks they have been treated unfairly they may act out or disengage. This presumption could have a tremendous impact on the effectiveness of assessment for learning if a teacher's pre-judgement on a pupil generates minimal effort and vice versa. It is not possible to align teacher and pupil personalities in the classroom as this cannot be pre-measured, what is possible is for teachers and pupils to make a conscious decision to be fair in delivery and receipt in an effort to ensure high standards of learning are achieved through school education.

The first lesson objective in School X was to define sustainability, identify items that are or are not sustainable and consider the impact their actions have on the world as shown in Fig 9. The second lesson objective was for pupils to look at energy efficient communities, compare this to where they live and highlight ways to improve their own area as shown in Fig 10. To assess the learning of pupils, their workbooks as shown in Fig 11 and 12 were viewed after lesson one to determine what learning took place, whether this could be brought forward into lesson two and how this would be delivered to ensure pupils achieve all the lesson objectives (Welsh Government, 2010, p. 7). Quality feedback is essential for the learner to know if they are making good progress and by implementing assessment for learning strategies, such as checking workbooks during topics, teachers can assess pupil development and amend subsequent lessons to attain this. Before lesson two commenced group feedback was provided expressing praise over content of workbooks and examples were shared with the class. Informal assessing and sharing of progress is essential for the 'ongoing and constructive part of classroom practice' and by providing 'timely feedback' students can grow and develop their knowledge with confidence that they are on track (Donaldson, 2019, p. 78).

The quality of workbooks and critical thinking in the following task as shown in Fig 13 and 14 were good although engagement throughout both lessons was negative and appeared meaningless to students. Teaching did not connect on an emotional level until an unconnected lesson where prior knowledge was applied e.g. visual of wildfires due to climate change resulting in death of animals. When discussed in the context of sustainability the reaction to the effect on animals appeared to resonate a willingness to change negative habits that impact the world. Amending future lessons to incorporate the impact on animals instead of humans may elicit more positive contributions in class. To improve the lesson pupils could engage through self or peer assessment which helps and promotes young people in taking responsibility for their own learning. This would also have complemented the learning objective of how their actions impact the world around them (Donaldson, 2019, p. 82). Advising students prior to undertaking tasks that their work would be

peer assessed may elicit more critical thinking as pupils may want to impress their peers and may feel more relaxed in the language used to answer questions. Pupils may also compare their performance to others and actively seek to produce better quality work.

Principle 9

In 2013 the Welsh Government published the National Literacy and Numeracy Framework (LNF), which is a document that outlines the purpose, aims and features of how LNF can be embedded into the curriculum for all subjects and how it can be properly implemented by teachers. The publication addresses the urgent requirement to raise standards in literacy and numeracy as these are essential skills learners need in order to reach their full potential in education and in later life when seeking employment opportunities (Hwb.Gov.Wales, 2019a, p. 4). The LNF numeracy focus is through four strands that include using number skills or measuring skills and how these can be applied within the context of the subject being taught (Hwb.Gov.Wales, 2019a, pp. 24-25). Research suggests numeracy is not about being a competent mathematician but by being numerate, in other words competent and confident with numbers (Didau, 2019). Students can improve their numeracy capabilities by developing knowledge in concepts fundamental to Geography, such as locating places on maps using grid figure references. Within this topic pupils can identify relevant data, search for patterns, think logically and break down problems into smaller parts. To ensure numeracy overload does not occur the lesson could be broken up into manageable sections, for example a map skills lesson also has imagery, literacy with place names and possible need for local knowledge. These other skills and information can be used to complement the numerical element of the lesson and ensure the context remains Geography specific. A disadvantage to cross-curriculum implementation of numeracy rich lessons is confidence in a teacher's ability to embed specific key skills into their lessons. As suggested by Estyn this can be reduced by ensuring numeracy is introduced naturally into a lesson where there is opportunity to do so, rather than contrived attempts to input numeracy where none exists simply as a tick box exercise (Hwb.Gov.Wales, 2019b, p. 7). Should teachers from other subject areas require assistance in how to appropriately embed numeracy into their lessons through the right context, they could share concerns or ideas with subject mentors or numeracy co-ordinators within their schools. Through comparison with several schools, Estyn notes that successfully implementation of numeracy into lessons occurs when genuine context for pupils to apply these skills is offered in a well-structured whole school experience (Estyn, cited by Hwb.Gov.Wales, 2019b, p. 15). Good planning and teamwork by the school faculty should ensure quality education that encompasses cross-curriculum delivery is being provided to young people within our schools. This will ensure standards of key skills such as numeracy are successful in raising standards of learners.

The LNF describes numeracy 'as the set of skills needed to tackle real-world problems in a variety of situations by applying numerical reasoning to solve the problem' (Hwb.Gov.Wales, 2019a, p. 22). Within the structure of a Geography lesson in School X, numeracy strands of the LNF was implemented using map skills as shown in Fig 15 where pupils progressed from locating places on a map using four-figure grid references to locating the exact position using six-figure grid references. To achieve this, one grid square was broken up into ten sections 'along the corridor' and ten sections 'up the stairs', terms used to remind pupils which order grid references are used as shown in Fig 17. Before individually answering set questions from a textbook, pupils were shown the best way to answer six-figure questions. They were advised to find the four-figure reference first as they had already built confidence in this method of locating, before breaking that grid square into ten sections to find the further two numbers required to locate the exact place on the map. This would enable students to think systematically and logically as breaking the problem into smaller parts would help in seeing how things can be sequenced (Didau, 2019).

To determine if planning and implementation of numeracy rich lessons was a success a short end of topic assessment was completed by pupils that included six figure grid references. Fig 18 shows an example of a student with some learning difficulties, they had partial recall of 4 figures and was able to correctly answer two of those four questions, however they were unable to recall how to find places on the map using 6 figures. Fig 19 on the other hand shows an example of a student who is an active participant in the classroom successfully answering 4 and 6 figure questions. To improve understanding of topics within the classroom environment that utilise Cross-Curriculum responsibilities such as numeracy, more support and differentiation in resources is required for students with additional learning needs (ALN). As set out in the LNF, the expectation is that cross-curriculum implementation of numeracy is to be inclusive to all learners and that pupils with ALN are to be included in all elements of LNF (Hwb.Gov.Wales, 2019a, p. 13). In order to ensure ALN pupils can progress to the same standard as their peers more accessible resources are required for example, more direct teaching on how to break down grid square or one-to-one teaching explained in a way that is clearer to an ALN student.

To conclude, good teaching of the above principles is implemented through a range of methods such as choosing thought provoking tasks with resources that inspire critical thinking by activating prior knowledge, as evidenced in teaching about populations using China's One Child Policy. Ensuring continuous assessment for learning takes place through various means such as marking of workbooks, self and peer assessment as evidenced in teaching Sustainability. This will provide meaningful feedback on whether pupils understand, enjoy and have learned the topic taught. Lastly providing authentic ways to implement the numeracy framework into a subject area such as Map Skills Grid References and ensuring teachers are confident and competent in delivering this. By planning lessons effectively with specific objectives and being clear on how the lesson will be delivered will provide students the best opportunity in gaining a well-rounded and meaningful education. Good teaching through these pedagogical principles could have a positive impact on a pupil's education that could carry forward into a student's adult life where they can further build on crucial skills they have gained.

Total Word Count: 3008 words

References

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- Black, P. and William, D. (2001). *Inside the black box*. Bloomington, IN.
- Deans for Impact (2015). [e.Book] *The Science of Learning*. Available at: https://deansforimpact.org/wp-content/uploads/2016/12/The_Science_of_Learning.pdf [Accessed: 20/12/19].
- Didau, D. (2019). [Online] *The Secret of Numeracy (across the curriculum)*. Available at: <https://learningspy.co.uk/featured/secret-numeracy/> [Accessed: 24/12/19].
- Donaldson, G. (2019). [eBook] *Successful Futures*. Available at: https://dera.ioe.ac.uk/22165/2/150225-successful-futures-en_Redacted.pdf [Accessed: 18/12/19].
- Estyn, (2019). [Online] *Estyn*. Available at: <https://area-edunet.gov.uk/en/schools/SchoolX/PageDocuments/SchoolX%20Comprehensive%20School.pdf>
- Hattie, J. and Yates, G. (2014). [eBook] *Visible learning and the science of how we learn*. London: Routledge. [Accessed: 20/12/19].
- Hwb.Gov.Wales. (2019a). [Online] *National Literacy and Numeracy Framework*. Available at: <https://hwb.gov.wales/storage/64812b0e-3d20-4d10-94e8-68221e47a38d/to-support-schools-in-introducing-the-national-literacy-and-numeracy-framework.pdf> [Accessed: 24/12/19].
- Hwb.Gov.Wales. (2019b). [Online] *Literacy and numeracy: Your questions answered*. Available at: <https://hwb.gov.wales/storage/a625428e-9359-4981-a5a0-5accbc506b9d/literacy-and-numeracy-your-questions-answered.pdf> [Accessed: 20/12/19].
- Mylocalschool.gov.wales. (2019). [Online] *My Local School*. Available at: <http://mylocalschool.gov.wales/Schools/SchoolSearch?lang=en> [Accessed: 18/12/19].
- Rosenshine, B. (2012). [Online] *Principles of Instruction: Research-based strategies that all teachers should know*. American Educator. <https://www.aft.org/sites/default/files/periodicals/Rosenshine.pdf> [Accessed: 18/12/19].
- Sebatane, E.M. (1998). [Online] *Assessment and Classroom Learning: a response to Black and William*. Available at: <https://search-proquest-com.ezproxy.uwtsd.ac.uk/docview/204052402/fulltextPDF/7CE3910D1BA64E07PQ/1?accountid=130472> [Accessed: 21/12/19].
- Sprenger, M. (2018). *How to Teach So Students Remember, 2nd Edition*. Alexandria, VA: ASCD.
- Welsh Government. (2010). [Online] *Why develop thinking and assessment for learning in the classroom?* Available at: <https://s3-eu-west-1.amazonaws.com/hwb-live-storage/05/ae/7b/09/4ca143999dea481cd5d23846/why-develop-thinking-and-assessment-for-learning-in-the-classroom.pdf> [Accessed: 20/12/19].