

LEVEL 6 ASSESSMENT SPECIFICATION

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Module:	Principles of Teaching, Learning and Pedagogy in the Secondary Sector		
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Lecturer:	Alison S Evans	Internal Verifier:	
Assignment Title:	Part B, (i) and (ii)	Word count (or equivalent):	(i) = 1,500 (ii) = 2,000
Submission deadline:	26 November 2018	Return date of provisional marks & written feedback:	17 December 2018
Submission method:	All written assessments, where practical and possible, must be submitted via Turnitin unless otherwise instructed by the Lecturer. (Please DO NOT put this assessment specification into Turnitin or it will match many similarities with other students' submissions.) Alternative submission method (if applicable): Late submission of the assessment will result in a late penalty mark. Penalties for late submission: Up to one week late, maximum mark of 40%. Over one week late, 0%. Only the Extenuating Circumstances Panel may approve a change to submission dates.		
Academic honesty / referencing:	Academic honesty is required. In the main body of your submission you must give credit to authors on whose research and ideas your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have used, cited or quoted in order to complete this assessment.		

Part B

i)

The scheme of work will be set out using the elements specified in the Mathematics Curriculum for Wales (Welsh Government, 2016, p. 22), stating what pupils should be able to achieve at the end of the strand. This is a legal document governing mathematics teaching in the whole of Wales in accordance with Section 108 of the Education Act 2002.

A four lesson scheme of work has been constructed designed to cover all aspects needed as set out in the curriculum. The four lesson scheme of work mirrors the four elements within the curriculum stating what pupils needed to learn. In the first lesson pupils will be shown how linear equations are constructed and how they are in constant balance when equal and how inequalities work in this environment. For the second lesson, which is the lesson to be taught for the microteaching exercise, solving linear equations will be the topic. Here, pupils will learn how to correctly find an unknown and solve equations. The third lesson will consist of exercises to be completed by the pupils requiring them to construct and solve linear equations themselves. This will be a mixture of examples and exercises on solving equations where the solution is negative, decimal or a fraction. This lesson will also contain expressing sets of numbers as inequalities.

According to Pashler, Bain, Bottge, Graesser, Koedinger, & McDaniel and Rohrer, Dedrick, & Stershic (cited in Deans for Impact, 2015), this technique of alternating different types of questions will help to reinforce the learning of the topics for the pupils. In the fourth lesson, pupils will learn to interpret straight line graphs, which consist of distance-time graphs with an emphasis on understanding gradients. This will also be an opportunity to bring digital competence into the scheme of work by using computer software to draw different graphs. In this scheme of work, literacy will be evident throughout by the use of bilingual vocabulary sheets, bilingual Powerpoints, through teacher-pupil interactions and pair and group work for pupils to learn various conversational skills (Dixson and Worrell,

2016). Numeracy will be available as it is a Mathematics course. Digital competence will be available in certain lessons where and when needed. Y Cwricwlwm Cymreig will appear throughout as all resources in lessons will be bilingual, but additionally, it will be included in discussions around contributions made by Welsh citizens to mathematics. Education for Sustainable Development and Global Citizenship will appear through some examples and exercise sheets will pose questions on real world applications. This proves important to enable the pupils to develop a good understanding of the impact of their actions upon their local communities and also national and international implications (Welsh Assembly Government, 2008).

As cited in Chambers and Timlin (2013), the Department for Education and Employment devised The Framework which highlighted the importance of lesson structure, suggesting lessons consisting of three parts is recommended. Chambers and Timlin however, take this further, proposing additional segments, hence my decision is to have a fourth. Three sections consisting of a starter, a main body and a plenary, and the added fourth which could be labelled 'self evaluation' is then situated between the main body and the plenary in this lesson plan. For the self evaluation, pupils will mark their own work or a partner's work and reflect on their answers and correct any mistakes they have identified. Peer reviews helps to develop the pupils' skills in providing constructive feedback to fellow learners, while self marking allows the pupil to be more involved in setting their own personal targets, and being better able to appreciate their progress (The National Foundation for Educational Research, 2012). Furthermore, according to Dixson and Worrell (2016), this gives pupils another opportunity to further understand the topic and to gain deeper understanding of the information. The main body was also comprised of four parts; teaching with pupil participation; time to work through questions; teaching to

expand further on the topic; time to finish the worksheet. This is an attempt to prevent the lesson from being too structured and monotonous (Chambers and Timlin, 2013).

At the start of this lesson a bilingual vocabulary sheet will be distributed for literacy purposes. In the starter activity there is an oral and mental activity where there will be interaction and communication between the pupils and myself as the teacher (Welsh Assembly Government, 2010). Here, I can build a positive relationship with the pupils through using gestures, speech, eye contact and communication to relay the topic information. In addition to building positive relationships, it will help with class management in future lessons. Through doing this activity it will also allow me the time to revise previously learned work and to get pupils settled for the lesson ahead.

The main body is broken up in such a way to provide less structure and less predictability. It helps to disperse the repetition of having to do question after question, which could discourage a pupil. This may assist in preventing a pupil from becoming bored and keeping their attention on the matter at hand (Chambers and Timlin, 2013). In the main body, the first activity will have 3 examples on the board which will be worked through as a class, to try and reduce the stress of learning a new topic. However, for each consecutive example the scaffolding will be gradually removed, giving pupils the chance to attempt the steps needed to solve the questions themselves (Pashler, Bain, Bottge, Graesser, Koedinger, & McDaniel; Kirschner, Sweller, & Clark; Atkinson, Derry, Renkl, & Wortham; and Sweller as cited in Deans for Impact, 2015). Also while explaining these examples pupils will be asked 'how' and 'why' questions focussing their attention on the meaning of the topic that is being taught (McDaniel, Hines, Waddill, & Einstein; Rosenshine, Meister, & Chapman; Graesser & Olde as cited in Deans for Impact, 2015). By asking different questions it will also give me the opportunity to differentiate by asking

different pupils the harder or easier questions (Tharby, 2013). Moreover, by naming various pupils it will help keep them engaged with the activity and keep class management by being able to name any disruptive or distracted individuals (Muijs and Reynolds, 2010). Following this, the pupils will have an exercise to attempt, then share their answers with a partner to strengthen their opinions, reflect on each others solutions and then marking each others work. When marking another students work, mistakes will be easier to find, following this, students will be less likely to make the same mistakes in their own work. Subsequently strengthening their literacy skills and helping understand the content better (William and Leahy, 2015). The next activity will be an exercise sheet where pupils will need to solve 3 questions, which gradually increase in difficulty. The reason for choosing this method is that practising similar questions is a way of classic conditioning, where a person will remember doing something because of habit (Muijs and Reynolds, 2010). After completing the 3 questions, correct solutions will be given for pupils to reflect on their own answers. For the next activity there will be a real life worded example for the pupils to attempt individually as it will help them learn the topic from embedding the question with a physical experience. Equally important is that it is succeeded by discussing their answers as pairs and then sharing with the whole class, as sharing their answers will help learn different techniques to find solutions, (Muijs and Reynolds, 2010). This part of the lesson will also be a chance to integrate numeracy skills. A further question on the exercise sheet will then need to be solved by all pupils and a further extension for the more able individuals, further differentiating and challenging different abilities (Tharby, 2013).

When moving on to self evaluation, there will be a use of formulative and summative assessment, pupils will be encouraged to compare answers before being asked to share their answers to the whole class to be discussed. Helping pupils gather information and

appreciate the work of others to see how solutions may be found differently (William and Leahy, 2015). As well as assessing how the pupils have retained the information and how they have managed with the work. This is an effective tool that can be used to see how the information taught has been transferred from teacher to pupil (Dixson and Worrell, 2016).

For the plenary, there will be a group challenge, where each group will attempt to find the odd one out. This will give the pupils a chance to consolidate all the different methods that have been learned in the lesson. Without a plenary, pupils may not have the opportunity to ask questions for clarity or to ruminate on what they have learned (Chambers and Timlin, 2013).

Word count for part B (i): 1,454

ii)

I felt a little apprehensive at the beginning of the microteaching lesson but as time went on I began to feel more comfortable and confident. This helped me settle into the lesson and from this I could manage my timing more efficiently. From the teaching experience that I have gained at school X, nervousness can have a massive affect on class management and the way a lesson progresses. But in time my confidence began to build and the problems that I was facing lessened.

At first a bilingual vocabulary sheet of key words was distributed to all pupils, this was to help the pupils that have any difficulty with Welsh or English to access the learning. I felt it was important to provide this to ensure pupils had their own reference of translations.

The lesson was started by using a Powerpoint to show the lesson aims. Looking back it may have been better to start with a 5 minute exercise, at the beginning of the Powerpoint, for pupils to begin answering in their books so that they would settle into the lesson ahead. These questions could have consisted of work from a previous lesson for revision or any questions linking to the planned lesson, this would be followed by quickly going over the answers for pupils to check if they were correct or incorrect. Having the exercise at the start when pupils are entering the classroom promotes classroom management and control, it may have helped capture every pupils' attention from the outset. Following this I could have introduced the lesson aims having already gained the class' attention. This is where I moved onto to my starter, which was to revise a topic from the previous lesson. However, instead of having questions for the pupils to answer, I provided statements which explained what was done in the previous lesson. The statements explained the topic well and could have been written in their books for revision purposes, although in hindsight, questions for practise were needed. Having begun my first professional

teaching experience, I notice the benefit of beginning with an exercise on the board as the pupils arrive to class. It allows for positive class management from the start and time to take the register. I will adopt this method in my teaching moving forward.

The second activity was to explain 4 examples, the first 3 examples would be done as a class and the forth would be attempted individually. I felt that my explanation of each example that was given to the pupils' was more relational than instrumental and would be influential in furthering their Mathematics. That aside, reflecting on my explanations, I felt I was effective in addressing all individuals, though on reflection the questions I was asking of them I later noticed to be mostly closed questions. Rather than asking 'how' or 'why' type questions and open questions to promote further discussion. I also took advantage in places to point out misconceptions that could happen when answering certain aspects of the problems i.e. can an unknown be a negative number. I realised when looking back on the lesson, I ought to be conscious of saying something is easy as some pupils might not think that it is and this may discourage them from engaging in the work. Moreover, I needed to be more enthusiastic when teaching in the classroom. Without any enthusiasm, the work may appear less interesting to the pupils and again may have an affect on their engagement in class. I was satisfied that I had asked the class whether there were any alternative solutions to the problems posed as some pupils may find that different methods are easier for them to follow. This is highlighted in the QTS Standards S 2.1 c Subject Knowledge KS3. As well as this, I was confident that I had emphasised various key points throughout the duration of the lesson and reiterated these for the benefit of pupils' learning.

The fourth example was an extension on the first three with a higher difficulty. I used this opportunity for a think, pair, share activity, and had planned to allow the pupils a chance

to work on their communication and literacy skills. In actual fact, I failed to allow the pupils enough time to use this activity effectively before interjecting and providing an answer to the problem myself. In hindsight, I think nerves may have attributed to this, and moving forward, I believe my confidence will grow with experience, preventing this from happening again. Another consequence of the pace being too fast would be that some pupils may not be able to follow the information and access the learning. When asking a pupil to show their working of the problem on the board, my use of praise may have needed to be more formal to support the teacher-pupil relationship, however, in saying this I feel the pupil would have appreciated the encouragement regardless. Looking back, I may have needed to complete this example on the board first before inviting a pupil to attempt it on the board themselves. I could have had each pupil answer the question on individual white boards to determine who had accessed the information. This would have given me the opportunity to have a better understanding with regards to which pupils were comfortable with the work and which pupils may have required further support. When it appears that the majority of the pupils have demonstrated a good understanding of the work, it would have given me an indication as to when to move on to the exercise sheet. During this time, I would be able to provide additional scaffolding to the pupils that were seemingly struggling with the topic, while the remainder of the class completed the exercise sheet. This is an example of Assessment Strategies, as noted in the QTS Standards S 3.2.1, which I will endeavour to achieve in future lessons.

The aim of the lesson was for pupils to be able to balance equations and to solve linear equations. The aim of balancing equations properly was understood by knowing that whatever happens on the right hand side has to be done on the left hand side. I should have been more aware that pupils may not have already known how brackets are used in order to solve linear equations and instead considered teaching this as part of my lesson.

There was another opportunity missed when transitioning from the examples to the exercise sheets. The sheets could have been distributed while pupils were attempting a question on the board to have a smoother transition into answering the exercise sheets. The exercise sheets had a range of questions from 1-5, plus an extension question on one exercise sheet. The pupils were required to use varying mathematical skills and problem solving techniques. The issue was that the sheets should have been divided and set out as questions 1, 2 and 3, plus further similar examples that increase in difficulty on the first sheet. Question 4 on a separate sheet, but rather, for use in previous lessons or for revision and starters and the extension question on the final sheet. I have since realised that question 5 and extension 1 part ii were irrelevant to this lesson and I will be mindful of this in future. This would have been more fluent to go into another example after completing questions 1, 2 and 3 rather than asking pupils to stop half way through a worksheet. It was a good idea to stop after the 3 questions to assess learning. This could have been done more cleanly if the questions were put on separate sheets. Also question 4 was a different concept to the work that was being learned at the beginning of the lesson. Question 4 helped to promote thinking, but as it was a different concept for pupils in this lesson (writing expressions as opposed to solving linear equations), it would have been more beneficial to use this question as a starter question or as part of a mixed exercise sheet at the end of the topic to consolidate the pupils' learning. I have further reflected upon this since looking at school X's scheme of work. Moreover, extension 1 part i was not of greater difficulty and therefore did not serve its purpose of providing a challenge for the pupils.

For the purpose of this lesson, the example that came after the three questions could have been read out by pupils which would incorporate literacy into the lesson. Again, the

pace was a little fast with the example not allowing enough time for pupils to think about the question. A pupil was asked to formulate the answer on the board straight after the question was read by myself. The use of think, pair, share was needed here as it would have given pupils the opportunity to attempt the question themselves.

Even though some pupil participation was effective, it was a bit overdone as it seemed as though the pupils were writing on the board more than I was. This also could have an affect on the other pupils in the classroom by becoming bored and losing attention.

After several questions were asked on the same topic from the pupils, I stopped the whole class to regroup and explain precisely what was needed so that I could ensure that everybody was on task and that repeated questions that had been asked were addressed to the entire class.

The plenary was an effective summary of the lesson objectives given at the start and involved a level of competition that required participation from all pupils.

From the experience gained at my first placement, I have learned that there is a need to develop my skills around basic lesson structuring. This structure consists of a starter, which will be an activity on the board for pupils to attempt, they will be instructed to begin this on entering the classroom. A consequence to this is that the pupils settle into the lesson which makes classroom management far easier. We follow with an explanation of the lesson's aims with a few examples on the board. Then an exercise for me to assess which pupils have understood the topic. Followed by an exercise sheet for pupils to practise this new information. The extension sheet would be provided to any pupils who have completed their exercise sheet to further challenge them. Finally, a plenary that will

summarise the new topic. When this has been practised and can be done without difficulty, I can then move on to changing lesson styles to better suit differing year groups and sets. It is anticipated that this will engage each pupil in every lesson providing the opportunity for everyone to access the learning.

Other factors that I have noticed while reflecting on my microteaching and professional teaching experience is that larger font on the slides would be helpful to make the information more accessible for all pupils. There were issues with some slides where a question mark was missing or spelling errors had been made, showing the need to proof read each resource that was going to be used in the lesson. I made sure to address each pupil to answer different questions to ensure everyone was involved and on task. This also gives me the chance to ask a question to a pupil that I notice is not paying attention, to get them back on track. When a pupil was at the board I would make sure that they explained everything they did step by step asking how and why they did that certain calculation. The time targets that were set for most activities I felt were reasonable and well managed as pupils had enough time to answer questions. Also, I had the opportunity to stretch or shorten the timing of each activity as and when needed, this creates flexibility that benefits the lesson depending on pupil responses. Overall, I was satisfied with the outcomes of the microteaching exercise, and feel that it allowed me the opportunity to critically reflect and evaluate my knowledge and skills and create an action plan for future teaching.

Word count for part B (ii): 2,027

Appendix

Action Plan

OBJECTIVES	ACTIONS TO BE TAKEN	SUCCESS CRITERIA	TARGET DATE
To Improve assessment strategies. QTS S 3.2.1 Assessment strategies.	(i) Research different ways that will allow me to assess pupils' work in the classroom. (ii) Observe teachers using different assessment methods. (iii) Implementing these practises efficiently and fluently into my teaching.	• Being able to see pupils work while circulating. • Helping pupils further their education. • Being able to give more feedback. • Able to see which students to differentiate with.	30/11/18
To improve subject knowledge in KS4. QTS S 2.1 d Subject knowledge KS4.	(i) Research the National curriculum for Wales in Mathematics. (ii) Teach lessons with KS4 topics. (iii) Research good teaching strategies of different topics.	• Able to teach with ease at higher levels. • Deeper subject knowledge. • Focus on the pupils and how they learn.	7/11/18
To note improvement of pupils. QTS S3.2.6 Noting improvement.	(i) Through working on the assessment objective I will be able to start noting pupil improvement. (ii) Plan an exercise sheet that will show how pupils are improving over a set amount of time. (iii) Use different questions to see improvement.	• Being able to see if any progress is being made. • How fast and which techniques make for better improvement. • Help to further pupils' education.	14/11/18

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