

Overview

Monday, December 9, 2019 9:21 AM

Student Name: Jack Rose

Student Number: 1903564

Assignment Title: Prepare a portfolio (as though you were sharing with a mentor) which illustrates a critical reflection of progress made on the planning and implementation of three pedagogical principles.

Pathway: Secondary PGCE

Link to OneNote: https://uowtsd-my.sharepoint.com/:o:/q/personal/1903564_student_uwtsd_ac_uk/En3EYkbvbbpCjWw2vDvNvYBMM_dmK7M9hNRf7odpsbZJQ?e=eZUOhw

Assessment for Learning

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Appendix 1.

Database Exam Question

Make	Model	Size of engine	Registration	Price (£)
Opel	Vectra	1.8	CF62 TER	10,000
Opel	Zafira	2.0	BF63 WRU	12,000
Volkswagen	Golf	1.4	LT11 INO	14,000
Volkswagen	Polo	1.2	PO08 TRN	11,000
Volkswagen	Jetta	1.6	WE16 REW	13,000
Renault	Megane	1.4	JR12 JRO	9,000
Renault	Clio	1.2	LO68 ERI	8,000

Key Words

- Record
- Field
- Query
- Validation
- Ascending / Descending

By the end of the lesson I expect everyone to understand and demonstrate the following:

1. To delete someone.
2. To sort the database in ascending order.
3. To create a query.
4. To create a double query.
5. To demonstrate if the validation is working.
6. To edit a record.

Part A

- 1.) How many records are there in this database? (1 mark)
- 2.) How many fields are there in this database? (1 mark)
- 3.) If the engine size field is sorted in descending order. What will be the registration of the first record in the database be after it has been sorted? (1 mark)

Part B

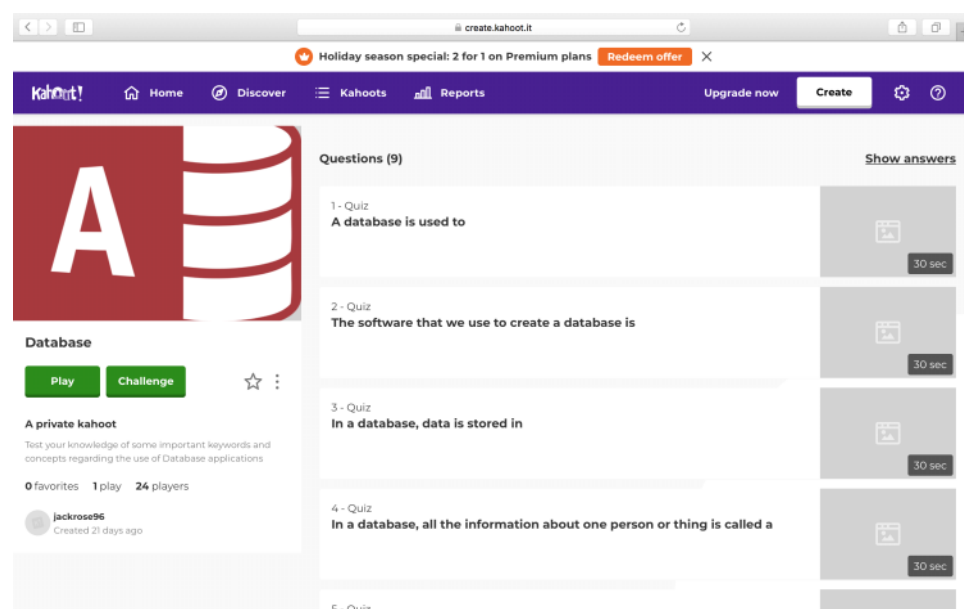
- 1.) Which field would make a suitable Primary Key? Explain why: (2 marks)
- 2.) A school uses a database to store records about its students. Describe a situation where a record on the database would need to be:
(a) Inserted

(b) Deleted

This is a starter task for a mixed ability year 9 class. The lesson was one of many on Databases, it is a project based subject and the aim of the project is for students to evidence each skill / technique that involves creating a Database in Microsoft Access. For this particular lesson, we focused on a variety of techniques that is essential to learn about Databases. We focused on the following: to delete someone from the database, to sort the database in ascending order, to create a query, to create a double query, to demonstrate if their validation is working and to edit a record. This was the aim of the lesson, that the students could demonstrate each of these skills by taking a screenshot of where they have demonstrated the technique and to paste it in a ready-made PowerPoint. Therefore it is vital that the students understand what they are doing as it is a complex subject. To tackle this, I created the above, as we were in the third lesson of the project I felt that I needed to know what have the students really learnt. This is a starter I created to test the knowledge of the students, this is to ensure my understanding of what the students understand and do not understand in order to go back over techniques if needed. A GCSE question can be daunting, especially for a year 9 class, I could have given the students the actual exam paper but because it is a mixed ability class I felt that most would find it overwhelming and would not answer the questions to their full potential. Therefore, I transformed the exam question into a more appealing, easy to read format. The students, simply had ten minutes to answer these questions, after this we moved on to the planned lesson. In my placement school, as shown above, we use Google and this is an

example of Google Slides. If I upload any piece of work on to Google Classroom, I can see at any point what the students have typed. This is an effective method to track pupils progress, I knew that I could present this starter and look through each pupils work in my own time. By circling the classroom and observing pupils work, I found that many students did not understand Part B, Question 1, therefore I went over in detail what a Primary Key is and the importance of a Primary Key. I explained to the students that if they need to they can go back to the exam question and add any information that they did not know, in the lesson I planned to touch upon each question and each technique in the questions. For example, in Part B, Question 2, the question asks why would we need to insert a new record and delete a new record. For some, this would be a fairly easy question but for others not so obvious, for this reason I had a class discussion on each question and also demonstrated to the pupils how we do each technique. Students then demonstrate this and evidence it in the ready-made PowerPoint provided. This is evidence of a formative assessment, I am reviewing the progress made to date and what I need to go over again. I feel that this is a successful method because they are a year 9 class and this GCSE question is from an exam taken in year 10, it provides the students a sample of what to expect if they choose to take the subject for GCSE. Also, it provides me with what I need to work on with the students.

Appendix 2.



In the same lesson with the year 9 class, as a plenary I created a Kahoot quiz. There were 9 questions in total and users had 30 seconds to answer each question. The questions are relevant to what we have learnt so far, therefore no question should be a surprise to any student. This heavily links with the starter and links with formative assessment, this is a practice for the students to test their knowledge and understanding of databases. The year 9 students grasped the quiz instantly with a bundle of enthusiasm, this is also an opportunity for me to see where each students knowledge is at. After each question, I explained to the students the answers so that the students who answered incorrectly would know why their answer is incorrect. To link it with assessment for learning, from the incorrect answers I know what to cover in the next lesson, learning is an ongoing process so it is important to constantly have methods to analyse the students' knowledge and understanding, a Kahoot quiz does this perfectly. It is important to have in your mind that I am not testing their knowledge as an exam would, I am simply collecting data and information on what I need to teach next and what the students understand or do not understand, these methods drives what I teach in the next lesson.

Appendix 3.

Plenary	● <u>10 minutes</u> - I will introduce the <u>postit</u> notes again and ask students to swap computers with other groups and on a postit note, students will write down what went well about their peers site and how can they improve.
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In this year 8 lesson, the aim of the project is to collect information on the different topics that links with internet safety i.e. Catfishing, grooming, cyber-bullying etc. The students collect information in a group of four and research four different topics. The aim of the project is to create a website on Google Sites, the focus on this particular lesson was to start creating their site. At the start of the lesson, I had resources in place for the students to interact and come up with what makes a good website and what makes a bad website. As a class, we observed different website, some good, some bad, this gave the students a real understanding of how their website should look. I also created my own website and again had a class discussion on how my site is good and how can I improve the website. This way, the students can see a ready-made Google Site and spark ideas on how they want their website to look. As a plenary, I provided the students with their own postit note and instructed them to swap groups and on the postit note they need to write what went well with their peers website and how can they improve, then the students stuck the postit note on their peers computer. I instructed that these notes will have to go in their planner and to bring them to the next lesson, which was the following day. In the next lesson, my starter for the students was to examine what their peers said about their website and to improve on the feedback that was given. In all of my lessons, I use some sort of peer assessing, I feel that the students listen more to what their peers think about the work than the teacher, also there is only one of me and nearly 30 students, it would be impossible to give feedback on each students work. With peer marking, every child is getting feedback and know how to improve within ten minutes, it is such an effective method to use. This is clear evidence of assessment for learning, as students are proving what they can do and what they need to do in order to improve. There could have been one downfall to this method, the students could have lost their postit note for the following lesson, luckily this did not happen. To prevent this I could have had this exercise as a starter and then ask the students to reflect on their feedback straight after.

Cross Curriculum Responsibilities

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Appendix 4.

Digital Design

Bank Statement

Task 1 - Select a job from the options below (place a circle around the job you have chosen). Then answer the following questions.



£23,124



£14,761



£31,112



£35,000



£35,000

Question 1 - What is meant by the term NI contribution?
The NI contribution is 12% taken out of your wage to contribute to your pension and to cover your monthly wage when you are ill, on maternity leave and school holidays e.g. the 6 weeks off. The NI (National Insurance) starts when you are 16 and when you are 65-67 you will get your pension.

Question 2 - What is meant by the term TAX?
TAX is 20% of your money from your monthly wage to the government to support public services around your community like the NHS (National Health Services) and leisure centers.

Question 3 - What would your monthly wage be before deductions?
 $\text{£}23,124 / 12 = \text{£}1,926.67$ (12 for 12 months in a year to work out the monthly wage)

Question 4 - 12% of an employee's salary goes towards their NI contributions. How much would you pay (annually)?
 $10\% \text{ of } \text{£}23,124 = \text{£}2,312.40$
 $1\% \text{ of } \text{£}23,124 = \text{£}231.24$
 $1\% \times 2 = \text{£}462.48 = 2\%$
 $10\% + 2\% = \text{£}2,774.88$
 $\text{£}23,124 - \text{£}2,774.88 = \text{£}30,349.12$
You will pay **£3,034.91** towards NI contributions.

Question 5 - The first **£11,850** of an employee's salary is tax free. However, 20% of their remaining salary is taxed? How much TAX would you pay (annually)?
 $\text{£}23,124 - \text{£}11,850 = \text{£}11,274$
 $20\% = \text{£}2,254.80$
 $\text{£}23,124 - \text{£}2,254.80 = \text{£}20,869.20$
I would take **£20,869.20** each year.

Question 6 - What would your monthly wage be after deductions?
 $\text{£}2,254.80 + \text{£}3,034.91 = \text{£}5,289.71$
 $\text{£}20,869.20 - \text{£}5,289.71 = \text{£}15,579.49$
My monthly wage would be **£1,298.29**

This is a perfect example of cross curricular responsibilities, this is a prime example of how we use numeracy in the lesson. This is for a year 7 class and this is the work of a year 7 pupil, this task took the whole lesson, therefore the aim of the lesson was to explain and demonstrate what is Tax and National Insurance . After the students understand what the both terms mean, they then chose a job from the options on the left. From here, we went through step by step each question. I explained question 3 and demonstrate how to work out the monthly wage before tax, then the students would demonstrate this on their task sheet. The students had 5 minutes to do so, then I brought them back in and had their attention, I then went through how to work out question 4 and repeated this structure throughout the lesson. This gave the students a lot more scaffolding and a lot more understanding because we went over one question at the time. Prior to this lesson, I had a conversation with the Mathematic department to see how they would work out percentages rather than demonstrating how I would do it, this avoided confusion as students would not have to learn a new method. I found that the students did not grasp question 5 and 6 as well as I would like, especially question 6. Question 6 is a very difficult question for a mixed ability year 7 class to understand, if I had another chance to do the lesson again then I would provide more resources and more scaffolding, the more able students understood quite quickly but for the less able students they found it difficult to understand. To tackle this I had the higher ability students to circle the classroom and help with any other students who need assistance. This seemed to work very effectively, similar to peer assessing I find that students are more willing to participate and understand more when working with a partner. I feel that this lesson was very successful and such an exciting topic to teach students such a young age, I feel that it is very important to teach such an important topic at a young age, it gives the work authenticity and much more importance.

Appendix 5.



I have many pieces of evidence to showcase internet safety, I have worked on two internet safety projects with a year 7 class and a year 8 class. The screenshot above is of a year 8 class and this is an example of a website I created for the students to know what I expect from them. This in itself was a classroom task and we went through the whole site together on what we liked and disliked about the website, I feel that the students need some sort of modelling to see what a good one looks like. The students can go forward from this and get some sort of inspiration out of it. As I mentioned prior, there are countless of examples of the two internet safety projects, I feel that the internet safety is such an important topic in this current world. The internet and technology are growing at a vast pace and the dangers are immense, therefore, vital to teach.

Following what I mentioned above, this is another example task of the same project, this is the buildup to create their very own website. In this year 8 lesson, the aim of the project is to collect information on the different topics that links with internet safety i.e. Catfishing, grooming, cyber-bullying etc. The students collect information in a group of four and research four different topics. The students then had to find research on what the topic is about, what signs do they need to look out for and how can they protect themselves. This then will lead them into creating their own website in their group. Internet safety, of course is in the DCF framework under the citizenship category.

Appendix 6.

Bank Statement

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	A	B	C	D	E	F
1						
2						Account Name:
3						Account Number:
4						Date:
5						
6						
7						
8						
9						
10						
11		Date	Description	Income	Outcome	Balance
12		25/05/18	CCBC	£2,000.00		£2,000.00
13		28/05/18				
14		31/05/18				
15		31/05/2018				
16		1/6/2018				
17		5/6/2018				
18		5/6/2018				
19		8/6/2018				
20		9/6/2018				
21		9/6/2018				
22		17/6/2018				
		19/6/2018				

Following the bank statement prior, this section of the project is to create your very own bank statement with formulas on Google Sheets. The aim of the project is for the year 7 students to understand what is on a bank statement and understand deductions in a wage each month. I believe that is very important to teach children such an important subject that we all have to learn when starting employment. The aim of this lesson is to simply create our spreadsheet, prior to this lesson we went over what exactly goes on a bank statement, from all the information we need and how much we have to pay out a month. This is teaching the students value of money and what is expected to pay when they have a job and when they start climbing the property ladder. These are essential for students to understand and prepare now rather than post education. The aim after this lesson is to fill out the table with all the ingoing and outgoings for the month, but we will do this through formulas. By simple formula equations, we can work out the total for the month and the total deduction for the month. This is not only teaching students about the value of money but essential spreadsheet formulas, which are vital for GCSE level ICT and Computing.

Resources that build on previous knowledge

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- **Good teaching and learning sets tasks and selects resources that build on previous knowledge and experience and engage interest.**

Appendix 7.

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1. To delete someone.
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5. To demonstrate if the validation is working.
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Part A

- 1.) How many records are there in this database? (1 mark)
- 2.) How many fields are there in this database? (1 mark)
- 3.) If the engine size field is sorted in descending order. What will be the registration of the first record in the database be after it has been sorted? (1 mark)

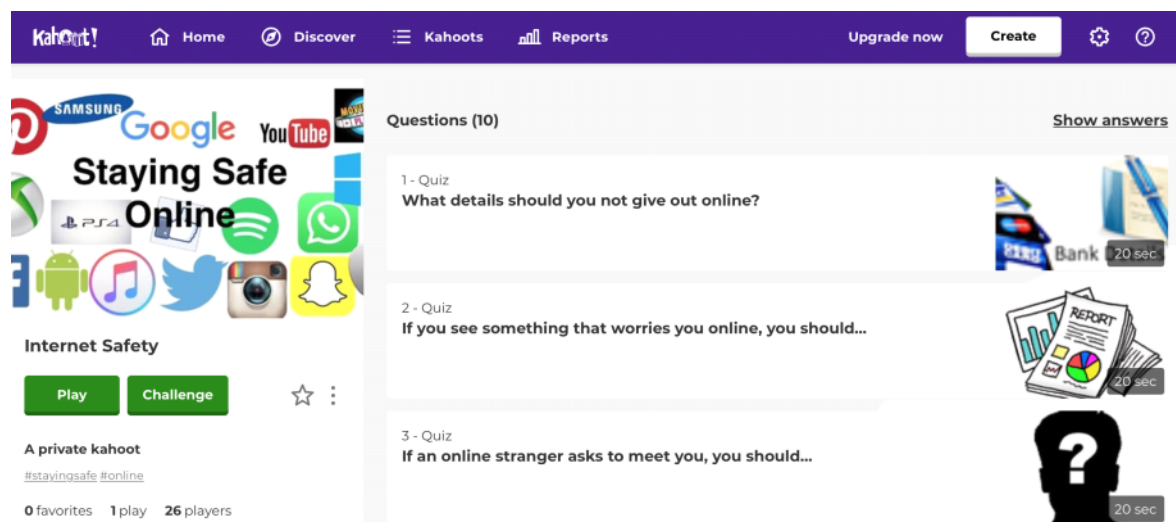
Part B

- 1.) Which field would make a suitable Primary Key? Explain why. (2 marks)
- 2.) A school uses a database to store records about its students. Describe a situation where a record on the database would need to be:
(a) Inserted

(b) Deleted

This is a prime example of a resource that builds on previous knowledge, this is a starter task for a year 9 class. The lesson is focused on databases, this is a starter task with questions that the students would have learnt already. This task is a year 10 GCSE question, I wanted to show the students that a GCSE question is not as daunting as it seems. The lesson prior to this, I taught the students the majority of these techniques shown above, I did not teach the students Part B, question 2 as they were learning about it in the current lesson. Saying this, students did grasp the question and was fairly simple for most. I chose this way to teach and to recall prior knowledge because it is a year 9 class and I believe it is important that students get a sample of what to expect in year 10. Post the lesson, I evaluated and reflected back on the lesson and felt that I helped the students too much, as you can see in the first printscreen, I have highlighted where the records are and where the fields are. As we have done a lot of work on fields and records, the students should have a clear understanding on what they are, therefore I should not have highlighted the records and fields. Overall, I feel that it was a very successful lesson, the students grasped the task quickly and correctly, proving to me their previous knowledge.

Appendix 8.



I feel that a Kahoot quiz is a very simple and clear way to recall knowledge, it is a perfect example of how to build on previous knowledge and ensure the students are engaged and enthusiastic about the topic. This is from a year 8 class and the project is all about internet safety and how to stay safe online, there is a total of ten questions and the questions are relevant on what we have learnt to date. The aim of this lesson was to create a website on internet safety, this plenary was a fun method to recall previous knowledge. Creating a website is a lot of work and quite tense, this is a chance for the students to lower the intensity and to prove on what they have learnt throughout the project. One of the positives from a Kahoot quiz is that it shows analytics of the class, for example I know that the top 5 of the leaderboard had 100% in the quiz. This is a perfect and visual example of the progress of learning made, it shows the understanding and knowledge of the students . Therefore, clear evidence of previous knowledge, from this point I can look over the scores from the Kahoot quiz and identify the weaknesses and the incorrect answers. From this, I can then go forward and go over what the students did not understand. Another positive about Kahoot is that I have control over when to display the next question, if students have an incorrect answer then it is simple to go over the question with the students as a class.

Appendix 9.

Opening phase
(with links to prior learning)

- **2 minutes** - Whilst the students are logging in, I will take the register and ask them to open up the relevant work.
- **10 minutes** - I will give a postit note to the students, then they will swap groups and peer mark a different groups site. I will then tell the students that they need to improve on what their peers said about their site (the postit note)

As mentioned in Appendix 3, one of my improvements that I felt was that I could have had my plenary as a starter. Therefore, I tried this with my other year 8 class, to compare which one is more successful. You can argue that if you have it as a plenary and then carry the feedback forth the next lesson, then it is possible that the students had more time to think about the subject and will have to

think more to recall what happened the previous lesson. You can also argue that having it as a starter is a more effective method because the students are improving on their feedback instantly, therefore fresh in their mind. As mentioned in Appendix 3, each student had their own postit note and swapped computers with a peer, the aim of the task is to read through their peers website and to write down what went well and how can they improve. The two methods were very successful, it is difficult to say which one was the better option, I feel that doing the task as a starter has the upper hand because by doing it as a plenary and then carrying it forth to the next lesson, the students have the risk of losing their feedback. I feel that both methods are effective exercises because it provides the students with authentic feedback from their peers, students seem to be more engaged and enthusiastic when giving feedback on their partners work. I employ peer assessment and peer feedback in most of my lessons, I feel that students are more enthusiastic and more willing to learn when marking their peers work.

Critical Reflection

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At the beginning of my Professional Teaching Experience (PTE 1), the pedagogical principles was a new subject to me. The pedagogical principles are important for educators and its framework to understand the outline of the whole system and pupils experiences. It is a crucial part of the education system and school life to establish coherence and order (Clark, 2005, Kahl and Venette, 2010). The current pedagogical principles focuses on the child as a whole, a more holistic view, a more humanistic approach (Milligan, 1997). Johnson et al. (2009) suggests that educators are changing the way students think and process information, determining that academic knowledge is no longer enough and students need to learn more social skills and transferable skills. These methods are focused on the student and suggests it is preparing students for lifelong lessons (Chambers et al., 2013).

Research suggests that within the classroom AFL (Assessment For Learning) is a cycle of where the learner is now, where is the learner going and how does the learner get there. Commonly, AFL is heavily linked with formative assessment; from a various of techniques it shapes the students learning. Questioning is an important feature within formative assessment, as is feedback, peer assessment and self-assessment. As John Hattie (2009) suggests, AFL provides the learner with a clearer vision of how their learning appears, AFL supports the learners understanding of what their work should look like and how they can achieve greater standards.

Within the classroom, I find one of the most effective techniques of AFL is peer assessing. The students seem to be more willing to engage in the task or more willing to improve their work if their peers have assessed it. To conquer this, research suggests that students may take advantage of the opportunity to talk to their peers and will not be a reliable source to have feedback on a piece of work, but it can be countered by getting feedback from more than one peer (Cho et al., 2006). Mentor feedback of my observed lessons suggest a strength in the methods of Assessment For Learning (AFL) that I employed when supporting individual learners.

The teaching and learning toolkit (Education Endowment Foundation) gives available synopsis of educational research in the hope of informing teachers on how to use various resources for the benefits of the outcome of learning and supporting individual learners, especially for the deprived and young community. The Toolkit presents a summary of various approaches used to improve teaching and learning regarding Cost of implementation; strength of evidence and the correlation to impact on attainment; and month impact of additional progress made by learners are summarised. Education Endowment Foundation summarises the evidence of AFL as high impact (with an additional 8 months impact of progress made by students) for very low cost, based on moderate evidence.

Feedback has an important role in the classroom, feedback is information provided to the learner about its progress and what goals need to be set. The aim of feedback is to focus on the improvement of the learning, to allow the student to progress and to constantly improve. It can be through verbal or written methods; from the teacher or a student taking on the teacher role as peer assessment.

Research illustrating the coloration between AFL and progress suggests that feedback has a positive and effective impact on the student's progress and standards of achievement. (Baron, 1988), suggests that negative feedback can have a negative impact on the students learning, thus meaning it is important to understand the child in a holistic manner and to understand the individual's needs. Some studies investigated the relationship between feedback, pupil progress and attainment shows a positive correlation (Christenson et al., 2012), suggesting an impact on all age groups focusing particularly on its effects in mainly English and Mathematics. Detailed feedback is an effective classroom strategy for minimising the gap in educational attainment, particularly when the feedback concentrates on an individual's current performance and progress (Olde Bekkink et al., 2012). Supporting this is the research illustrating the positive impact of AFL and feedback progress (Black and Wiliam, 1998; Hattie & Timperley, 2007).

Research evidence on feedback was an important part of the motive for Assessment for Learning (AfL). One assessment of AfL indicated an impact of half of a GCSE grade per student per subject is achievable, which would be in line with the wider evidence about feedback. Feedback redirects the students actions to achieve a goal. It can be verbal or written. Providing feedback can encourage and support further effort.

When considering the strength of the validity and generalisation of the literature it's important to consider the strengths and limitations of the study designs. Countless amounts of research has been conducted to explore the effects of feedback. Educational research studies establish a positive impact and the purpose of feedback is to improve the results of the learning in literacy, numeracy and prior knowledge (Tournaki, 2003). As indicated prior, feedback and AFL are heavily linked to formative assessment; the improvement and success is far greater if implemented consistently over a period of time. (Akers et al., 2014, Black and Wiliam, 1998).

The development and implementation of feedback are greatly emphasised in the current curriculum, the cost of implementing good feedback is at a low cost. To deliver effective feedback is a challenge, efficient feedback is accurate, precise and fair. Implementing feedback ties into Donaldson's (2015) four purposes of a confident, healthy learner and an ambitious learner. Feedback links with prior knowledge and how to improve on so, it is essential to compare what they have done wrong with how to improve. Leading on from effective feedback has to be specific in order for the student to acknowledge exactly what they have done wrong and how specifically they can improve. Through provided feedback and receiving feedback, the teachers' professional development is also occurring, whilst it is important to provide feedback, the method of how you do it is a personal choice.

Leading from feedback, in my own professional practice, I found that feedback has an essential role to play in the classroom. I identified that feedback is constant throughout the lesson and in each lesson, but feedback appears in different manners. I use peer feedback often, (see appendix 3), through conducting my own research into this and through implementing different methods of feedback, I found that peer feedback is a crucial method for the students. As seen in (appendix 3), I used peer feedback in order for the students to receive critical feedback and how can their peers improve. By allowing the students to view their peers work and to critically mark their work, it gives students a sense of importance and independence (Black and Wiliam, 1998).

The benefits of peer feedback are endless, by providing the students an opportunity to give constructive feedback; the teacher is allowing the students to engage in one others learning and thus allows a more understanding and gratitude for their work. By allowing students to communicate about the task, then there is a more purposeful conversations and communication occurring (Richardson & Swan, 2003). Students and the classroom have a more civilised environment and a sense of community (Corgan, Hammer, Margolies, & Crossley, 2004).

As AFL is highly emphasised, cross curricular responsibilities are also important. It is crucial to give a task a sense of meaning, students will appreciate a task more if it will help them in the real world. From a holistic perspective, cross-curricular ensures that the content of the teaching delves into many skills in a valuable and meaningful way (Byrne and Brodie, 2012). This coheres with Donaldson's report (2015), that the focus is on the child as an individual and their individual needs; meaning the focus being on the child's creativeness, physical ability and social development.

The benefit of a cross-curricular approach is that students gain an understanding and unity between different subjects; a connection between the different brands of knowledge (Dugast-Portes, 1997). A cross-curriculum approach desires an understanding that knowledge should be shared across all subjects and not isolated to one subject (Naval et al., 2003), these are established as learning areas.

As shown in (appendix 4), the purpose of this is to teach the students about real life events. The use of numeracy and digital competence is evident, the purpose is to teach students at a young age about what to expect after education or when starting a career. The purpose of the task was to understand the meaning of tax and national insurance, to ensure all students understand deductions of someone's wage after tax and what to expect from a payslip. When planning my lessons, I ensure that I have enough resources to scaffold the students as it is a complex topic. Also, to support this (see appendix 6), students are learning about what is a bank statement and what goes on a bank statement. The students engaged very well with such a difficult topic at such a young age, the students communicated well and all eager to answer. Being a real life topic, it allows the tasks to have authenticity, it allows the students that knowledge of what to expect when in their own career. This is a prime example of how cross-curricular is implemented, leading on from this (see appendix 5), in this modern world the internet and technology is at a fast growing pace. Therefore, internet safety is vital to teach in schools at a young age. Internet safety, of course is in the DCF framework under the citizenship category, which links into cross-curricular. Internet safety is progressively fundamental providing

the rate of the number of children accessing the internet (Holloway et al., 2013). With all three examples, it is important to educate children about real life matters. All specific subjects are important, but alone they cannot secure the capable knowledge, ability or skills to be an ethical, informed citizen (Donaldson 2015). As part of my own practice and the placement school I am in, I feel that the cross-curriculum approach is emphasised. Therefore, I am encouraged and influenced to teach in the same manner. To improve my own practice and to improve my links to the cross-curricular, I need to work collaboratively with different departments, such as the Science department.

Having an opportunity to teach within a pioneer school which has developed a new curriculum where the emphasis has been to embed cross-curricular elements and to thus develop transferable skills among adolescents. This has given me an opportunity to work with other departments such as Science to work on a space project. In the science lesson, students will perform the experiment, in the IT lesson students will document their findings. As ICT is the core to the new Digital Competence Framework, it is important for other subjects to work closely. The benefits of this is that students are working on a project as a whole and not just for that one subject. It allows students to work on a project from different perspectives.

As research suggests, cross-curricular can be implemented to support the learning of students with different abilities. The method combines one or more subject and can bring together a vast amount of different theories. These subjects can use the same theme, the same topics or experiences (Hayes 2010). Cross-curricular enhances various skills rather than subject knowledge alone. This approach is becoming an increasingly popular approach, that connect subject knowledge, the know-how and understanding from different subjects. This can notify an augment pedagogy that will boost the learning as a whole and allows to explore and discover a diverse range of knowledge and understanding (Savage 2011). This perception suggests that this type of teaching originated from a constructivist point of view; where the learning is approached by doing and participation. This pedagogical principle can be initiated by a range of methods that will ensure the development of the child's creativity, exploration and artistry; developing the child holistically and fundamental life skills. This alone drives the ambition and excitement of the new curriculum and especially working collaboratively with the cross-curriculum.

Cross-curricular learning aims to develop interchangeable skills that students use over many subjects, to focus on skills is vital if we want children and young adults with a balanced education (Tate 1994). Some suggest that it is not adequate to leave the education system with grades alone, young people need to leave school with the understanding of how to use their knowledge in society (Morrison 1994).

To build on previous knowledge is a key aspect of my own teaching, some research suggests that learning is a result of constantly building on previous knowledge (Piaget, 1954; Vygotsky, 1978). Piaget (1954) implies the intellectual state of the child, proposing that children learn more by constantly adding knowledge to the schemas; learning through play. Thus meaning, we expand our understanding of new knowledge by remembering prior knowledge and logic (Piaget, 1954).

Building on the students prior knowledge is a vital part of the learning journey, it affects how the students connect with the work and materials (Moos and Azevedo, 2008, Ozuru et al., 2009). From the teachers point of view, previous knowledge can also rattle the teacher to deliver the lesson accurately (Roschelle, 1995). Furthermore, it can affect planning lessons as we need to push ourselves in order to push the higher ability students to achieve even higher (Biswas, 2007, Seel and Dinter, 1995). Saying this, if students do not have the capability to retract prior knowledge and find it difficult to build on previous knowledge, then there can be an issue to build on new knowledge (Dochy, Moerkerke, and Marten, 1996). Adding to the benefits of building on previous knowledge, some psychologists' suggest that building on previous knowledge can have a positive impact on the memory and how we store information (Clarke et al., 2005, Cobos-Moyano et al., 2009). Regarding enthusiasm and motivation of the child, studies show that it has a great effect on learning new knowledge and skills (Jong and Joolingen, 1998, Mitchell et al., 2005). Also, previous knowledge is crucial to learning new things and applying to other subjects (Cohen and Levinthal, 1990).

As seen in (appendix 7), I created a GCSE exam question for a year 9 class. Most of the information in the exam question is past knowledge, with some they would have learnt in that lesson. This was my starter task and it was a chance to examine what the students remembered and if they can build on that previous knowledge to answer new questions. It was not a test as such but a chance to test if students could carry the previous knowledge and apply it to the lesson. As suspected, most students could apply this theory and was able to recall knowledge and apply it to their work. To carry this forward, I could possibly add more resources or scaffold more in order for the students who could not recall that memory and apply it to the work.

As for (appendix 8), a Kahoot quiz is very popular with the students, a Kahoot quiz is an online quiz where every student are involved. This particular quiz had 10 questions, with an answering time of 20 seconds each, as it is live I can see from my device who had the answers correct and incorrect. The very first Kahoot quiz I conducted, I had feedback off my mentor, which was to explain the question and answer after each question for those who had it incorrect to understand. Following the advice given, I done so, after each question I explained the question and answer. Kahoot is an effective method to calculate students' level of understanding of the topic, it is also effective to use Kahoot as a competitive method. Research suggests that there is a strong connection between learning and the use of competition (Burguillo, 2010). Competition in a lesson can motivate the students to engage in the task by the opportunity to be the best and to succeed more than peers (Burguillo, 2010). Saying this, a Kahoot quiz isolates the students and restricts them to work independently, as research suggests group or paired work is much more effective method of learning and building on previous knowledge (Johnson et al., 1981). I believe Kahoot is a great way to get the students involved with their learning, but it can isolate some students and can have an impact on a child's self-esteem.

For my further development, I feel that I need to support the lower ability students more; it is difficult to build on previous knowledge in a mixed ability class as some students do not have the capability and understanding to do so (Dochy, Moerkerke, and Marten, 1996). By reflecting on my own lessons and receiving feedback from my mentor, I feel that I can improve on the following; I need to create more resources in order to scaffold the lower ability students; my explaining of tasks needs to be more clear; I need to create extension tasks for the higher ability students and plan my questioning in order to ask the most effective questions. This will lead me to successfully implement the pedagogical principles in my lessons. My experience in the classroom has educated me to always have an extension task and to always have a backup resources if students do not understand your explanation.

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