

A lesson study to research how the use of starters effects the level of pupil engagement in secondary schools.

	Targed/Target	Yr hyn yr wyf wedi'i wneud yn yr aseiniad hwn. What I have done in this assignment.
Targed/Target 1	Reference correctly	Using the University's Harvard referencing guide to help me to reference correctly.
Targed/Target 2	Justify your ideas. Try to lead in with the literature reference and then put your opinion on it	Structuring my writing so that the reference is first explain the point then adding my opinion to it
Targed/Target 3		

Aim, Focus and purpose of the research:

One of the most important aspects to every lesson is the start, a good starter settles the pupils who have just came in and focuses the pupils on the lesson by either focusing on the previous lesson or the lesson topic. During my teaching practice I have noticed how much effect a good starter has on the pupil engagement and the impact it has on the rest of the lesson. I have been interested in the different types of starter activities and the effect that they have. The purpose of this research is to find out if there was a type of starter or strategy that was beneficial to the pupil's engagement at the start of the lesson and if that influenced the rest of the lesson.

Research Context (briefly describe the setting context)

As a trainee teacher, I am looking to find ways to increase pupil engagement in my lessons. My research partner has been looking for the same. We decided to focus on our research on the very start of the lesson or the 'starter' as (Brown, 2010 pg vii) states that the start of the lesson is crucial for the rest of the lesson. Our research question that we decided on is 'How the use of starters effects the level of pupil engagement in secondary schools?'

Short overview of relevant literature:

After deciding on our initial question, we started looking into research about starter activities.

The Department for Education and Skills (2004) list a success criteria in which starters should aim to achieve, they are;

- Pupils engage fully in learning from the outset.
- They gain an understanding of the objectives and purposes of the lesson.
- There is a sense of pace.
- Pupils spend most of their time on-task and focused on learning.
- There is an appropriate level of challenge that enables pupils to make good progress in their learning.

They go on to state that starters are most 'effective' when they engage all the pupils, provide challenge to the pupils and set the pace for the lesson. With providing challenge, the aim should be to put the pupils into the 'Zone of Proximal Development' (ZPD) (Hohenstein and King, 2011, page 178) where pupils are being challenged to the higher end of their ability and are most likely to learn.

'For many student teachers this list will allow them to be able to reflect on their practice in more depth, using the results of their reflection to try and implement different starters to achieve more success.'

Brown (2010 pg vii) states that the first few minutes are crucial in making sure the pupils are 'switched on' and 'hooked into the lesson or 'zoned out. It is important to make sure that the start of the lesson is planned well as if it is not it can make for a bad atmosphere throughout the lesson (Parkinson, 2002 page 45). Ross et al (2010 page 58) looks at starter activities similarly, they see it as an opportunity to 'take notice of something' or engage their curiosity, however Ross et al (2010 page 58) break starters down into 2 parts to ensure it has the desired effect, it splits it up in to two stages 'impact' and 'elicitation'. The impact stage is all about inciting the pupils curiosity, effectively the hook for the lesson, and the elicitation stage is to see where the pupils knowledge about the lesson topic is, this allows the teacher to gauge where the pitch the lesson, it also puts the pupils in charge of their own learning as their input dictates where the lesson will go, this method of starter is with the constructivist learning approach where the pupils link what they already know and build on this knowledge (Teaching guide for GSI's, 2016). It is important to not just see the start of the lesson as a phase just to settle them down but as an opportunity to excite them about the lesson, an

effective starter can engage the pupils for the entire lesson. Sorensen (2015 page 170) and Butt (2003 page 63) make the same key point about engaging pupils in starter activities, they state that it is important to make sure pupils are clear about why they are doing the activity or 'whether they are being offered a valuable educational experience', pupils engagement will waver when they do not see a purpose to what they are doing so it is imperative that the starter activity is planned with the lesson previous or ahead in mind so the pupils are building on previous knowledge, this way of learning links well with the constructivist learning theory where the students are constantly building and linking previous knowledge with the lesson (Hohenstein and King, 2011 page 181). This links with the research of Donaldson (2015) about giving the pupils authentic learning experiences that they can relate to in their own lives.

Thinking about the research behind why starters are done, several pieces of research can be linked to pupil behaviour and that by having an engaging beginning of the lesson can keep them interested therefore lessening the chances of poor behaviour developing throughout the lesson (Cowley, 2010 and (Stephens, 2014).

The second part of the literature review is going to be focused on pupil engagement and how it can be improved.

As a student teacher, you always want to have all pupils engaged in your lessons but how is this achieved?

Pupils are most engaged in lessons and activities where they can relate to the activity and see the purposeful in it, also that they are clear as to what is expected of them this allows them to have a clear outcome to work towards (DfES, 2004). Another aspect of pupil engagement is to ensure all the pupils are appropriately challenged linking to the previous literature about the zone of proximal development (Hohenstein and King, 2011, page 178). This is where the ability to differentiate in the classroom, which is providing an activity with varying levels of difficulty or outcome allowing the pupils to access the task at their own level, has a great effect on pupil engagement (Coffey, 2011).

Ginnis (2002) says a way to keep pupils engagement high is to use a variety of activities between lessons, this keeps the pupils interest as it could be an activity that they have not done before, however a contrasting viewpoint is that some pupils like consistency within their lessons and like doing the same activities, also a teacher could be reluctant to change to different activities as they could fear them not working well and losing the learners in the lesson.

Lesson Study design:

In this section, the methodology will be discussed and the rationale behind the selection of each method.

A lesson study was the most appropriate research to use, lesson studies are a form of close to practice action research. According to Dudley (2015, page 4), lesson studies are one of the 'fastest growing approaches to teacher learning', lesson studies allow teachers to focus on an issue they have noticed, analyse it, theorise as to how to fix it, trial their theory and analyse the results. It is a relatively simple to perform and has a large background of research showing positive results for all teacher development (Dudley, 2015, page 14, Stewart and Brendefur, 2005), whilst Cajkler et al (2014) states the benefits of conducting lesson studies in improving teaching specifically in Initial teacher training settings by working collaboratively with colleagues and sharing their good practice.

Methods of data collection:

For this lesson study, the researchers had to evaluate different methods and decide on what methods were most suitable to obtain the best results. After reading literature about lesson studies (Dudley, 2015) an observation of 2 lessons with an intervention between to modify the starter task to see if it had an impact of pupil engagement was decided, a focus group interview, where the participants in the study will be asked a number of questions about the lesson that they had just been apart of, a finally a reflection on the process as a whole to see how the researchers practice had been affected or influenced by what they had experienced, justification for each selection will be explained below.

The case pupils chosen for study consisted of 3 pupils from each class, they were identified with the assistance of the class teacher and available test scores. Using this data and the assistance of the class teacher, 1 lesser able pupil, 1 middle of the class pupil and 1 top of the class pupil were selected, this was to give the research a broad scope across a class (Dudley, 2015).

Observation:

For observing the lessons, a non-participant observation was selected. It was selected to give the observer a more natural feel as they wouldn't influence the participants in anyway. A structured observation was chosen to in order to focus the observation on the research question and to produce comparative data between the two lessons (Cohen, Manion and Morrison, 2007). An observation schedule was developed (see appendix 1A), deciding to use the Leuven scale of Active engagement (Teacher toolkit, 2016) as it already focused on

engagement no adaptations were needed. The use of the observation schedule was to keep the focus on the research question. To give an overall picture of the pupil's engagement in the starter activity, interval sampling (Sharp, 2009, page 85) was used, observations were to be made every 3 minutes during the 10 minute starter period so a total of 3 observations were to be made of each pupil.

The rationale behind choosing the observation for this research is that the observer has a eye-witness account of what is happening rather than relying on asking them what has happened (Sharp, 2009)

Interview:

According to Cohen, Manion and Morrison (2007), an interview is a tool which allows the researchers to gather a lot of data. Punch and Oancea (2014) state that it provides a great opportunity to explore people's perceptions. By interviewing the participants their feedback can provide invaluable feedback that can't be observed from a non-participant, the interview can focus on the emotions and feelings of the participants compared to an observation.

For the interview, a semi-structured interview as a group interview was being conducted, the interview schedule was divided into 3 main topics (see appendix 1B) with guide questions for each topic. This was chosen as it, the base of questions would be the same for both groups however it allows for more opportunity to allow the interviewer to ask more questions to incite more detailed and specific answers from the participants (Sharp 2009).

The interviews were completed in the groups of participants to help to reduce the anxiety involved in being interviewed they are with their peers, to also reduce anxiety of the participants, the interview will take place in the same classroom as the class if possible, if not possible a safe location which the participants are familiar with (Cohen, Manion and Morrison, 2007).

The interviews were to be conducted straight after the observation; this is to ensure that the participants' memory of the activity they have just done is fresh in their minds.

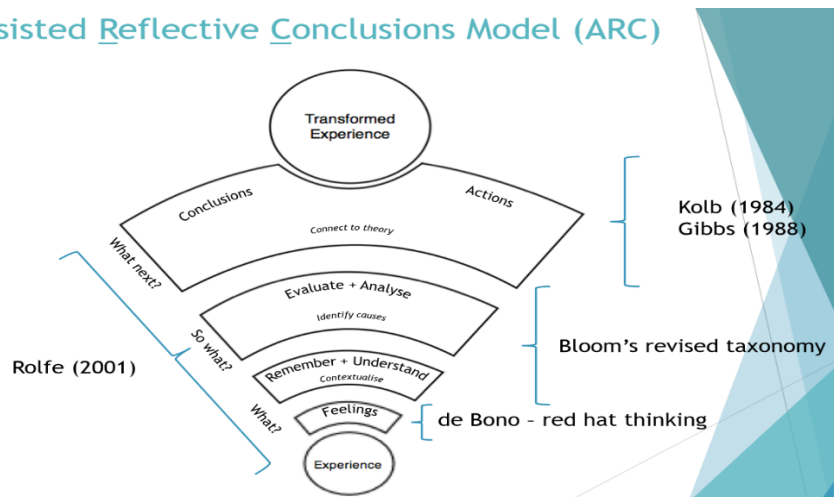
Some drawbacks with group interviews is the emergence of a dominant and passive participants, one can confidently answer the questions and one could simply just agree rather than giving their own opinion, (Sharp, 2009)

Reflection Model:

The reflection model used was the Assisted Reflective Conclusions (ARC) model (see appendix 1C), this was decided as it combines a number of different reflective models such as Kolb's learning cycle about drawing conclusions from experiences (Macleod, 2017);

Gibbs' six stage learning cycle, describing the event and feelings during it reflecting on the next steps (Gibbs, 1988); Rolfe's reflective framework based around 3 simple questions; What?, So What? And What next? (Rolfe et al, 2001); Using blooms revised taxonomy for deepen thinking from the work of Anderson et al (2001) ; and finally de Bono's red hat thinking from their theory of 6 learning hats with the red hat focused on the emotions behind the experience (de Bono, 1992) as described in the diagram below:

Assisted Reflective Conclusions Model (ARC)



Ethical considerations:

Several ethical considerations were made when planning this research study in accordance with BERA (2018) guidelines. Both researchers in this study followed the UWTSD Research Ethics & Integrity Code of Practice to ensure the integrity of this research. An ethics form was submitted to the University's ethics committee detailing how personal data was going to be collected and stored throughout the study and subsequently approved. All the participants in this study completed consent forms for this study and information was given to all of the participants detailing the method of the study and how their data will be handled (see appendix 2).

Lesson study 1 and 2 results and analysis:

Lesson 1:

The first lesson was a year 7 Computer Science class, where the students in the class were mixed ability. The lesson aim was to continue working on editing photos for a quiz using a computer programmes GIMP and Microsoft excel.

The starter activity for this lesson was a match the picture and terminology to the definitions on a Microsoft word document using shapes to join the terms and definitions, they had previously been working on Microsoft excel, and how to use formulas and set up rows and columns. The starter was to activate their prior knowledge of this. Some of the definitions were easy and some were set up to be more difficult.

This paragraph is to be focused on pupil 1's engagement in the starter. Their engagement was measured every 3 minutes with additional comments mentioned by the observer (For observation schedule see appendix 3A). Pupil 1 is a middle ability pupil in this class. At the first interval pupil 1's engagement was rated at 4A which states that the pupil is engaged in the activity and not being distracted, at the 6 minute observation the pupil rated a 5A+C, the pupil was fully engaged in the activity enjoying the activity, they were actively conversing about the task to the others, supporting their peers when they were struggling with the task. At the final observation at 9 minutes towards the end their rating was 5A, still being fully engaged in the activity throughout, showing enjoyment when their answers were correct. The pupil was appropriately challenged for this activity, also the pupils around them were also engaged in the activity as to not provide any distractions.

Pupil 2 was identified as a less able pupil in this class. To start, there was not enough computers for one pupil to be on one, so this pupil had to share with another pupil in the class, this could greatly affect this pupil's engagement in what was meant to be an individual activity. For the first observation at 3 minutes this pupil's engagement was rated a 2A+B, which states the pupil is off task, looking around the room and easily distracted however due to the issue stated earlier, might have contributed to their engagement levels. The 2nd observation at 6 minutes was rated at the same level at the first interval, as the pupil's situation in the classroom had not changed this rating could be attributed to this issue. For the final observation at 9 minutes, the pupil had their own computer at this point and was completing the task individually, their rating went up to 3A, as the pupil was previously working as a pair and not on their own, the increase in engagement could be attributed to the fact they were in control of their own learning at this stage. If the observation was to have

continued at this point, it might have provided a better reflection of the pupil's engagement in the lesson.

The third pupil was identified as one of the higher ability pupils in the class. At the first 3-minute interval the pupil's engagement was a 1B, stating they weren't on the activity set by the teacher, showing an absent attitude to the task. At the 2nd 3-minute interval, they were given a 2A, again the pupil was still not on the activity and distracting others around them, complete disengagement in the activity. The final interval was when the teacher was going over the answers and asking the pupils questions, the pupil rated a 4A at this part, able to answer the questions asked to them about the task relatively easily, this could mean that the starter task set was not challenging enough to engage the pupil but they had a clear knowledge about the topic.

The starter task could have improved pupil engagement if the task set was challenging to all pupils putting them into their ZPD (Hohenstein and King, 2011, page 178), by setting the task to challenge the more able in the class, they will be challenge to complete the task, using peer and teacher support the other pupils could be supported to complete the task.

Planning for the next lesson, we decided to do a gradual increase in difficulty for the starter task to try and hook the less able in the class and use peer support to help them later on in this task as this helps boost the lesser able by peers assisting them but also reinforces the more able pupils knowledge about the subject (Atwater 1996) this research links to Vygotsky's Social constructivist theory of learning (Vygotsky, 1978).

Lesson 2:

The second lesson was a Year 7 mixed ability Science class, focusing on efficiency of energy transfers, previously the class had worked on energy transfer diagrams and Sankey diagrams

The starter for the lesson was a use of formative assessment to check the pupil's level of understanding from the previous lessons. Pupils had a whiteboard between 2, there would be questions on the board and the pupils had to work together in their pairs to get the correct answer for the questions. The questions for set up to get progressively more difficult as the starter task went on. (for observation schedule, see appendix 4A)

This paragraph is going to be focused on pupil 1 during the duration of the starter task. Pupil 1 was identified for this study as they are a higher ability student within this class. The first observation of this pupil rated a 4a on the adapted Leuven scale, this meant that they were

focused on the task and not being distracted by others in the class. The next 3 minute observation, the pupil was a 3E, and the observer noted that the exercise seemed to easy for the pupil, so their engagement reduced as they were not challenged through the starter, and the final observation was rated as a 4B which states that whilst the pupil shows attention to the task, it is deemed to be more superficial. This could still be due to the pupil not feeling challenged throughout.

One factor to consider about this pupil's levels of engagement is the fact they were working in pairs, the partner they were working with was at a different level to theirs so could have been distracted by them

The second pupil was identified for the middle ability pupil, in the starter activity at the first observation was rated as a 3A and the comment was that the pupil was engaged but gave up when the question was too hard. The activity seems to pitched for this pupil to be challenged throughout as the next 2 rating are quite high levels of engagement are a 4C at the 6 minute interval and 4B at the 9 minute interval, both comments from the observer state that the pupil in engaged in the activity and is challenged by the activity, by being challenged by the activity the pupil is constantly engaged by the activity as it is activating their prior knowledge. Linking this the literature review, the DfES (2004) stated that in their success criteria for a starter that;

'There is an appropriate level of challenge that enables pupils to make good progress in their learning.'

By being constantly challenged by the task the pupil remains fully engaged.

The third pupil in this observation was identified as the lower ability pupil in the class. Throughout the activity the pupils engagement in the activity is low rating at 3 minutes 1A with the comment showing that they are day dreaming in the activity and allowing their partner to take control of the activity, at the 5 minute observation the pupils rated 2A showing that they are easily distracted and off task, this could be due the task being too difficult for them and their skills in working with their partner could also be low. For the final observation at 9 minutes the pupil rated 1D showing no interest in the activity, displaying a passive attitude and being disengaged from the activity, this could have been predicted as the task was getting harder throughout and if they were disengaged at the start then as the questions got more difficult, it would be harder to get them to become engaged.

Having looked at the results for all 3 pupils, the higher ability and middle ability pupils were relatively engaged throughout with the higher ability pupil becoming more engaged during the later stages. To make sure that all pupils are engaged in the activity, make sure there is

effective differentiation, where all pupils are challenged by the activity but given support so they can access the activity, in the starter activity as it could affect the pupils engagement throughout the lesson if they are not engaged in the starter.

Interviews from both lessons:

Both interviews were conducted directly after the class has taken place to the starter activity will be fresh in their mind (for full interviews, see appendices 3B and 4B).

The first 3 questions were to establish the prior knowledge about starter activities, all pupils were familiar with starter activities, being able to give examples of specific starters that they enjoyed. Both groups were aware of starter activities and were able to give reasons as to why they thought they did starter activities, one pupil noting that they were to 'settle the class ready for the lesson' or to 'get warmed up'. 4 out of 6 pupils answered that they like having a starter on the board when they come in with 2 say they don't mind, with one pupil stating 'helps me to get started in the lesson'. This is encouraging as it seems that most of the teachers are following the DfES (2004) guidelines for starter activities.

When asked if starter activities take too much time, most pupils stated that they sometimes could, with one pupil stating, 'too difficult' and 'would rather start work they could do'. One pupil also noted that they could be doing 'work more relevant to the lesson', both these points agree again with the findings of the DfES (2004), Parkinson, (2002). Ross et al (2010) about appropriately challenging pupils in activities, also about relevance to the lesson being factors in engaging the pupils.

All pupils agreed that starters help to settle the class with one pupil saying it gets people into a working mood with the others agreeing in one interview, with the other interview agreeing in similar terms about focusing on the work.

Discussion of research:

The findings of this research study show quite clearly that pupil engagement relies on the learner being challenged by the activity but also can be affected if the activity is too difficult as one of the pupils stated in the interview, in both lessons the more able pupils engagement waivered, in lesson one throughout the task until the end and lesson two at the beginning where the questions were more simple. This factor was listed in the DfES (2004) in the literature review, however it should be noted that all pupils need to be supported for every pupil to achieve success at these tasks (Coffey, 2011), perhaps if more support had been given, the pupil, who noted that some starters were too difficult, engagement might have been higher throughout the starter. The tasks can either be differentiated by tasks (setting pupils different tasks) or by Support (where pupils received more support on individual's needs) (Adey and Serret, 2010), this can only be achieved through effective teacher planning to allow for all pupils needs to be met.

The interviews were very conclusive about the factors affecting pupil engagement, all of the pupils noted that starters help to settle the class agreeing with Brown (2007) and Sorensen (2002) about the starter of the class being important to the atmosphere for the rest of the lesson but more encouragingly they noted that the relevance and difficulty of the activities have an affect on their engagement again agreeing with the success criteria of the DfES (2004) for a successful starter activity.

Pupil engagement can also be affected by several external factors beyond the control of the classroom teacher. For example, in the first lesson, there was not enough computers for each pupil to have one each, this relied on pupils working in pairs, in areas designed for one pupil only, this could great affect pupil engagement as they are not directly completing the activity and are more likely to be distracted or become a distraction. The teacher could have planned the best task with all the learners going to be challenged, but if the classroom itself isn't equipped to deal with the class then the teacher can't help that.

Another factor that could affect pupil engagement is their attendance at school (Banjeree et al, 2014), some tasks require using prior knowledge like the starter in lesson 2 but if the pupil has missed the previous lessons, then they won't be able to engage with the activity as they will not know the content or find it too difficult relating to the findings in the interview where the pupil stated that sometimes starter activities could be too difficult and disengages them.

Conclusion:

In this section, the method of the study will be critically examined focusing on the validity of the method, the reliability of the collecting the data, nothing the strengths and limitations of the method. Also, in this section, the next steps as to how this will affect my teaching practice will be discussed and how this research will help me to move forward.

The main limitation of this study is the small sample size used to observe, by using a larger sample, more data would have been produced allowing for a wider picture about pupil engagement. A further limitation was the researchers lack of experience as both are in the teacher training stage. This lack of experience could affect their skills as observers as they misinterpret pupil's actions as disengagement or passive engagement as active engagement.

The method for this research was reliable as there was a clear set of operational definitions to use during the observation, to ensure that behaviours observed rate at certain levels, although Cohen, Manion and Morrison (2007) state as well that the presence of an observer may impact the behaviour of the pupils reducing the reliability of the study. The observational definitions also helped with the validity of the method, enabling whoever was observing to be able to observe specific behaviours and compared them to the Leuven Scale of Active engagement (Teacher toolkit, 2016).

In order to reduce the effect of bias during the observations, the participants ability levels were not disclosed to the observer, this allowed the observer to take a natural uninfluenced observation of the participants.

The observation and interviews were not piloted beforehand, only among peers was the operational definitions discussed in order to fine tune the definitions, had the observation been piloted in a relatable situation, this would have enable the researchers to adapt their definitions prior to the study improving the validity of the method. The researchers however had previously used the ARC reflection model (appendix 1), this was part of the rationale behind selecting the model as the researchers had previously used this model throughout their teacher training practice. To increase the reliability of this study, several rounds of piloting should have been conducted in order to prepare the researchers more effectively for the study, and allowing them to make any alterations needed to improve this study (Cohen, Mannion and Morrison, 2007).

Due to the small sample size of the study, the findings would struggle to be generalised across education. By only selecting 3 pupils from each class, although a spread of ability did help, such as small sample size isn't representative of the whole school population, although

Polit and Beck (2010) say that the goal of qualitative research should be to generalise the results but to focus more on understanding the findings in relation to that particular experience which the method did allow the researchers to do, they will be able to use this study to further their own professional practice.

Recommendations:

This lesson study will help me to move forward in my teaching practice as I have been able to engage more with the research there to assist with my teaching going forward, from engaging with the research, I know to ensure that I set the bar for the more able pupils in my lessons, and the need to put support measures in place to enable the less able learners in my class to achieve the lesson objectives, by differentiating effectively either by task or by support (Coffey, 2011). Pupil voice will be a massive part of my teaching practice from now on, as the interviews in this study matched up almost perfectly with the findings of the DfES (2004), Brown (2007) and Sorensen (2002) about relevance and challenge being key factors in pupil engagement at the start of the lessons and how a good starter settles the class well, I can only move forward in this practice by actively engaging in pupil voice, asking for feedback from them about my lessons, this will allow me to reflect on my practice more effectively.

The findings of this research would suggest that practitioners follow the DfES (2004) success criteria for effective starters in order to start their own lessons well, engage in the research done by use research such as 'the zone of proximal development' to challenge pupils throughout. (Vygotsky, 1978).

The next steps for this research is to try to figure out what type of starter tasks are the most engaging for pupils, to do study a large study needs to be done on a large number of pupils to be able to consider the research reliable.

If a lesson study was to be conducted again, using a larger participant pool would increase the validity and reliability of the results as there would be more ability to generalise the findings, as with a small sample the findings couldn't be generalised as there is no way to state that the same result would happen in every classroom.

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