

**Can we improve pupils' quality of writing through
student engagement with model answers?**

1901603

	Target	What I have done in this assignment.
Target 1	Continue to maintain this standard.	I have attempted to maintain a level of criticality to my writing.
Target 2	Remember the four purposes is a curriculum for Wales so try and look for neutral content when looking beyond Wales.	I have avoided using sources which may contradict the purpose of the Curriculum for Wales.

Introduction

The purpose of this action research was to improve classroom practice relating to pupils' quality of writing through the use of model answers. Cross-curricular responsibilities are a critical aspect of the Curriculum for Wales and good teaching and learning is said to regularly reinforce these responsibilities and provide opportunities for the pupils to practice them (Donaldson, 2015). Writing skills are considered to be an important aspect of the cross-curricular responsibilities that require development (Welsh Government, 2019). Model answers are often used to improve pupil achievement, however a literature review showed little evidence of an improvement in pupils' literacy given the use of model answers. As a result, a question was raised as to whether model answers could be used as an approach to develop pupils' written literacy.

Research context

It was identified that there was scope for improvement in the quality of pupils' written work within School X, particularly at KS3. Upon discussion with other members of staff this was identified to be true across the different AoLEs and it was for this reason that the research question, "Can we improve pupils' quality of writing through student engagement with model answers" was developed. It was collaboratively decided that this study would be actioned in Year 7 mixed ability classes across three different AoLEs. This was done to obtain a representative measure of the effect of modelled answers on writing, not only in different subject areas but also across a range of abilities.

Theoretical background

Donaldson (2015) states that a teacher has a responsibility of developing a pupil's literacy skills, and can be achieved by providing activities that promote the pupil's awareness and their use of language (Arnold, 1991, p.8). There has been considerable attention towards developing pupils' literacy through reading, however the ability to write should also receive more focus as it is a fundamental and complex skill which is required for success in life (Mohr, 2015, p. 619 and Kim and Schatschneider, 2017, p. 35). In order for pupils to develop their writing they need to be taught the necessary skills to develop an understanding of what makes good writing (Mohr, 2004, p. 77).

Written instruction can be summarised into two categories, skills and composition. Skills such as spelling, grammar, punctuation and subject specific literacy are all vital components required for the generation of written texts. The ability to create longer texts is also reliant on these skills, however it also requires the ability to generate text and analyse the quality. Pupils require the opportunity to practice their writing in order to develop these skills (Coker et al., 2018, p. 503). Cer (2019, p. 2) describes writing as a '*problem solving*' activity which requires the pupil to consistently practice in order to develop an ability to self-evaluate and improve by eliminating any flaws within their writing. Developing this ability will also enable pupils to become ambitious and capable learners, one of the four purposes of the Curriculum for Wales (Donaldson, 2015). However, for this to be possible they must first understand the success criteria. This is often problematic and pupils often lack an understanding of what is required to produce quality work. Model answers and exemplars have been suggested as a potential approach to overcome this issue (To and Carless, 2016, p. 746 and Orsmond, Merry and Reiling, 2002 p. 310).

A model answer can be defined as an '*ideal response, which would receive 100% of the marks*' (Huxham, 2007, p. 603). Wray argues the importance of model answers for improving pupils' quality of writing by suggesting that for pupils to be successful they need to be shown good examples of written work. Wray also argues that actively modelling good examples in front of the class is one of the most beneficial teaching tools for improving the quality of pupils' answers (Wray, 2004). Early research carried out in this field by Rust, Price and O'Donovan (2003, p. 151) showed that engaging pupils not only with the assessment criteria grids but also with model answers, explanations, teacher-pupil discussion and self-assessment resulted in an improvement in outcome. More recent research carried out by Hendry et al. (2012, p. 149) also showed that the use of model answers for assessments followed by teacher-led marking resulted in the pupils developing a better understanding of the success criteria and an improvement in pupil achievement. These results can be argued to be a product of the time spent making judgements as a class about the extracts of work and engaging in evaluative conversations, further deepening their knowledge of the success criteria (Sadler, 2010, p. 544). The participants also highlighted the usefulness of the model answers as templates which provided them with a way to approach the assessment. The provision of a range of examples, each of a different quality, was also considered an important aspect of the study. This provided benchmarks to compare the work against (Hendry et al. 2012, p. 153) giving pupils examples of what was considered good or bad and ways to improve (Bell, Mladenovic and Price, 2013, p. 771). Öqvist and Malmström (2018, p. 155) suggest that pupil motivation towards learning can be enhanced through the provision of fun activities, challenge and reward. Model answers have been shown to improve engagement and motivation through

challenging the pupils to '*match or beat*' the model answer (Bell, Mladenovic and Price, 2013, p. 772).

Even though the majority of research surrounding model answers has demonstrated a positive impact on assessment outcomes, they are not without limitations. A study performed by Huxham (2007, p. 601) showed that pupils had a clear preference for personal instruction in the form of feedback over model answers. Furthermore, there were concerns amongst the teaching staff that by providing model answers, pupils may be tempted to copy them rather than learn the skills necessary to improve the quality of their answers (Bell, Mladenovic and Price, 2013, p. 772 and Hendry et al. 2012, p. 150). This risk can be mitigated by providing pupils with a model answer from a similar topic, therefore requiring pupils to complete their own work (Hendry et al. 2012, p.159).

The literature suggests that the main focus of using model answers has been to improve pupil answers for assessments and there is little research showing their use as a teaching task for improving pupils' quality of writing. This research aims to fill this gap by investigating if pupil engagement with model answers can result in an improvement in the quality of pupils' writing.

Lesson Study Design

The research question was addressed through action research. Action research, requires teachers to ask questions about what they are doing and how they are doing it. This encourages teachers to reflect on their practice and identify areas that they want to improve. Often this is used as a tool to encourage the collaborative development of teaching practice to address specific aspects of learning (McNiff, 2002). As a result, action research has the ability to make an impact both at the classroom level and at the professional level by promoting both pupil achievement and professional development (James and Augustin, 2018, p. 345). However, there are limitations to action research in that the results are often not entirely conclusive but rather offer tentative recommendations (James and Augustin, 2018, p. 337) and so care must be taken. This research was implemented through a cycle lesson studies consisting of collaborative planning, observations, focus group interviews and reflections which fed into the collaborative planning for the following lesson (Figure 1).

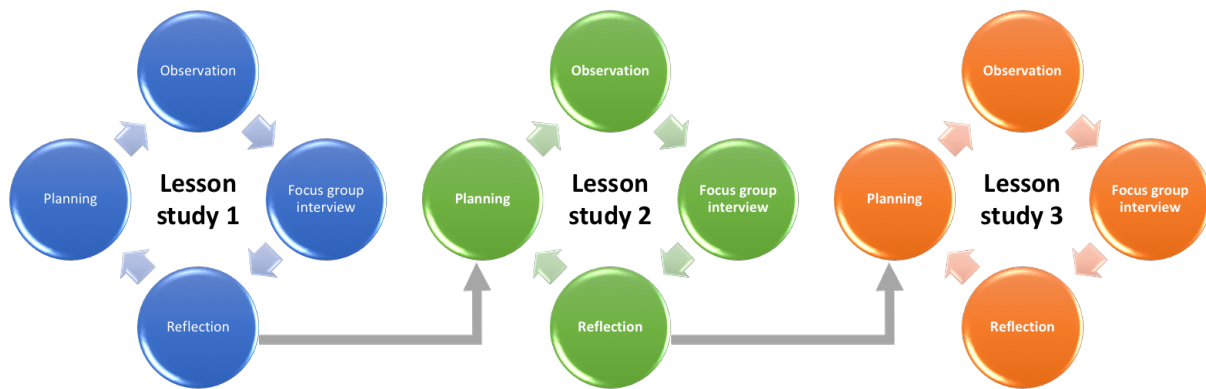


Figure 1: A schematic representation of the lesson study design.

Three lesson studies were implemented over a period of three days where the pupils of Year 7 mixed ability KS3 classes were provided with two model answers produced by the teacher in the form of a ‘mark your teacher’s work’ task. One answer was a poor example and the other was considered a high-quality answer. The pupils were asked to assess the answers according to the success criteria and contribute during a period of collaborative feedback. The pupils were then given the opportunity to complete their own piece of writing based on what they had learnt. Afterwards, the pupils were required to assess their writing according to the success criteria.

In short, this lesson study could be split into 3 sections:

- i. Teacher-modelled assessment - ‘mark your teacher’s work’ task and interactive feedback.
- ii. Written task.
- iii. Self-assessment.

Participants:

All pupils were given the opportunity to take part in the study and were given a cover letter and consent forms to do so. A sample of three pupils per lesson were selected to form the focus group according to their prior performance in a piece of similar written work which was previously levelled. These levels were used to select the low, middle and high attaining pupils. Overall, a total of nine pupils were involved in this research, three pupils from each lesson study. These pupils will be referred to as the following:

Lesson study 1: Pupil A (High), Pupil B (Middle), Pupil C (Low)

Lesson study 2: Pupil D (High), Pupil E (Middle), Pupil F (Low)

Lesson study 3: Pupil G (High), Pupil H (Middle), Pupil I (Low)

Data collection

This study utilised four forms of qualitative data, these were observations, focus group interviews, reflections and the measured outcome. Quantitative data was derived from the observations and the percentage of pupils sustaining a high level of engagement at each stage of the lesson was assessed.

Observation:

The Leuven involvement scale (Laevers, 1994) was used as a basis to observe the pupils' activity-specific engagement throughout the different stages of the lesson. The scale was adapted to suit the research question and formed the basis of the observation pro-forma used by the researchers (Appendix 1). This provided clear categories of engagement by which the pupils were levelled (Figure 2), the pupils were considered to be highly engaged if they sustained a level 4 plus during the task. The method of non-participant observation was chosen, in order to best mitigate the risks of introducing observer bias into the study (Cohen and Manion, 2007). However, bias could still have been introduced as a result of the Hawthorn effect, where the pupils' behaviour and productivity may have changed as a result of being observed (Kumar, 2014). This could have had an effect on the validity and reliability of the results.

	Level				
Category	Level 1: No	Level 2: Low	Level 3: Low-Medium	Level 4: High-Medium	Level 5: High
Attention	Actively diverted	No	Low	Moderate	High
Effort	No effort	Low effort	Minimal	Moderate	Sustained
Quality of work produced	No or Poor	Limited and of a poor standard	Minimal	Adequate	High

Figure 2: The categories used to level the pupils' engagement. A more detailed explanation of these levels can be found in Appendix 1.

Focus group interview:

Following each lesson, a semi-structured focus group interview was conducted. The semi-structured approach provided sufficient structure ensuring that specific topics were covered to give core points of comparison, whilst also providing the flexibility needed to gain a richer understanding of the participants' view-points (Galletta, 2013 and Kumar, 2014). However, it was noted that the quality of the data obtained would be highly reliant on the quality of the interaction and skills of the interviewer (Kumar, 2014). Probing questions were asked where necessary to allow for more discussion and elaboration and care was taken to ensure that these questions were clear and not leading to avoid researcher bias (Kumar, 2014). The specific topics focused upon within this lesson study were the participants' feelings towards the lesson, specifically the 'Mark your teacher's work' tasks and the written task (Appendix 2). These recorded using the interview pro-forma (Appendix 2) for data analysis.

Reflection:

The researchers reflected upon the lesson through discussion and written reflection notes. Immediately after the focus group interviews initial findings were verbally reflected upon, this was followed-up by independent written reflections using the reflection pro forma (Appendix 3). Gibbs' (1988) reflective cycle was used to support the critical reflection aspect of the lesson

study by providing 6 distinctive key concepts to consider (Figure 3). This reflective cycle focused on the learning by considering the description of the event, the experience during the event and the related literature in order to develop conclusions and considerations for future lessons (Husebø, O'Regan and Nestel, 2015, p. 369).

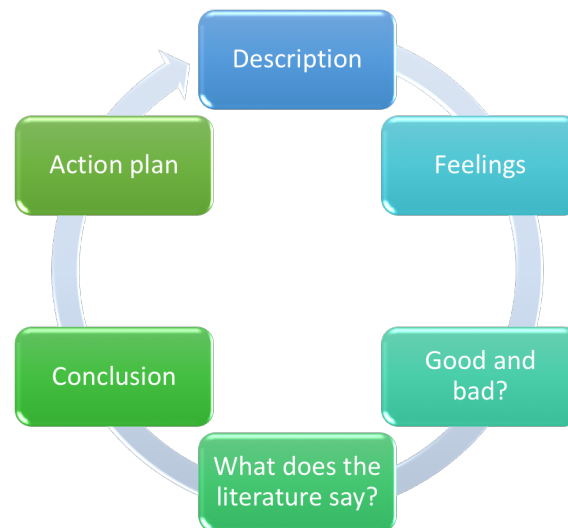


Figure 3: A The reflective cycle used for this action research based on Gibbs reflective cycle.

Measured quality of writing:

The levels given for written work varied across the three different AoLEs addressed within this research. Therefore, a universal scale of levels was collaboratively developed between the researchers to allow for ease of comparison.

- 1 = Poor
- 2 = Below average
- 3 = Average
- 4 = Above average
- 5 = Exceeding expectations

Ethical Considerations

Multiple ethical considerations were taken into account and ethical approval was received from Yr Athrofa ethics committee before any research was carried out. The need for anonymity and confidentiality was identified as being vital according to the BERA guidelines (BERA, 2018) and was addressed through the use of generic names instead of the school's and pupils'

names. Data storage according to GDPR was also considered and all data was kept in a locked cupboard to which only the researcher had access. Potential risks to the participants, the investigator and the university were all taken into account during the application for ethical approval and were identified as being avoidable through the adherence to the UWTSD research ethics guidelines for educational research (UWTSD, 2017) and the BERA guidelines (BERA, 2018).

Results and Analysis

Lesson study 1

The first lesson study was implemented in the Science AoLE in a class of 22 pupils of mixed ability. The focus of this lesson was scientific method writing since this is a vital aspect of the Science curriculum (WJEC, 2019) that was identified as a problem area prior to this study. The pupils had previously received written and verbal feedback regarding their method writing and had made little improvement. The lesson objectives were to mark two pieces of work according to the success criteria and to produce a method which meets the success criteria (Appendix 4 & 5). The success criteria were discussed in-depth with the class before they completed the tasks.

Level of engagement:

At a global level the class appeared to be highly engaged with the 'mark your teacher's work' task. The pupils showed enthusiasm when given the opportunity to feedback and they were able to share their corrections, demonstrating an understanding of the success criteria (Hawe and Parr, 2014, p. 226). However, when looking at the levels of engagement of the focus group (Table 1 and Appendix 6), only 2 out of the 3 pupils sustained a level 4 or above for this task. Pupil C (low attaining) was given a level 3 for engagement suggesting that the pupil was easily distracted and only produced minimal work in order to meet the requirements. This was a result of the pupil's lack of confidence and understanding of the success criteria making the task too difficult (Shernoff et al. 2003, p. 177). This was identified when the pupil asked for further guidance. Subsequently, Pupil C's level of engagement increased to level 4 for the remainder of the lesson. Interestingly, Pupil A's (high attaining) level of engagement dropped very low during the self-assessment task and only reached a level 3 during the written task. This was contrary to what was expected. Upon reflection it was questioned whether this was due to the higher attaining pupil having little to correct in their previous method. This perhaps

made the task appear pointless and lacking in challenge which was problematic since meaningful and relevant challenge has been found to be highly related to engagement (Shernoff et al. 2016, p. 53 and Davies, 2020). The level of challenge for the higher attaining pupils was not an aspect that was considered prior to this lesson study, therefore moving forward the level of challenge became a key focus during the planning and implementation stages of the study.

Stage of the lesson	Level of engagement observed		
	Pupil A (High)	Pupil B (Middle)	Pupil C (Low)
Modelled answers	4	4	3
Self-assessment (previous piece of work)	1 → 2 → 3	5	4
Written task	3	5	4
Self-assessment	3	5	4

Table 1: Level of pupil engagement observed for each task during lesson study 1.

Focus group interview:

During the focus group interview (Appendix 7) the overall sense was that the pupils enjoyed the 'mark your teachers work task' stating that *"it was fun and a bit different"* and *"it was easier than normal."* Pupil A stated that they *"liked telling miss she was wrong."* Pupil A also stated that going through the task as the class was useful as it *"explains more of what we need to do,"* the other two pupils were in agreement. Both Pupil B and C suggested that providing model answers gave them something to compare to, this is consistent with findings by both Hendry et al. (2012, p. 153) and Bell, Mladenovic and Price, (2013, p. 771). However, Pupil B identified that they found the high-quality example less easy as it was *"difficult to see what needed correcting."* Moving forward this difficulty was avoided by asking the pupils to discuss what was good about the second example rather than what needed correcting. Data for all the core points of comparison were obtained during this interview, however, there were opportunities for probing questions which were missed, this resulted in data that is lacking in depth (Galletta, 2013).

Outcome:

During the focus group interview the pupils stated that they understood what they needed to do to improve their writing. This understanding was checked through levelling their work according to the scale agreed upon by the researchers and comparing it to their previous

methods. The results communicated in Table 2 show that both Pupil B and Pupil C increased the quality of their written work. The improvement in the quality of Pupil B's writing in particular was considerable moving from average to exceeding expectations. This was evident through their use of imperative verbs, adverbs and more complex sentence structures, meeting many aspects of the success criteria. Pupil A was also able to include more adverbs in their written work. However, Pupil A was already achieving the highest level prior to the lesson study, this was identified as a limitation of this study after completion.

	Quality of writing (Level 1 – 5)	
Pupil (Attainment)	Before lesson study	After lesson study
Pupil A (High)	5	5
Pupil B (Middle)	3	5
Pupil C (Low)	2	3

Table 2: Quality of pupils' writing before and after lesson study 1.

Action plan:

For the most part, the 'mark your teacher's work' task was positively received by the pupils. However, the levels of engagement decreased during the 'self-assess your previous method' task and the 're-write the method' task. Pupils saw little challenge in re-writing a piece of work and some found it difficult to edit their own work to improve the quality of their writing (Shernoff et al. 2016, p. 53), this was especially true for Pupil A. In the following lesson study, the pupils were provided with a new challenge of producing an entirely new piece of writing and the 'self-assess a previous piece of work' task was removed. This was done in an attempt to maintain the global level of engagement following on from the engaging 'mark your teacher's work' task. There were also limitations identified in the manner the interview was conducted. The pupils often simply agreed with statements made by the other pupils, using probing questions here could have allowed the pupils to expand further and give more in-depth answers (Kumar, 2014). Moving forward into lesson study 2 the benefit of using probing questions to gain further information was considered.

Lesson study 2

This lesson study was implemented during an English lesson in a class of 21 mixed ability pupils. The focus of this lesson was individual written responses which was identified by the

researcher as an area in which the pupils were particularly weak, especially the low attaining. The lesson objectives were to mark two pieces of work according to the school's marking criteria and the Point, Evidence, Device, Analysis, Link (PEDAL) success criteria and to subsequently produce their own individual response according to the success criteria (Appendix 9 & 10). The success criteria were discussed in-depth as a class with examples where necessary before they were asked to complete the tasks.

Level of engagement:

Table 3 presents the levels of engagement of the focus group during lesson study 2. Initially, all the pupils were highly engaged in the 'mark your teacher's work' task, and were all displaying attributes of level 4/5 engagement. However, as the task progressed Pupil F (low attaining) quickly became disengaged and gave little to no attention to the task. Pupil F's engagement then rose again slightly during the interactive class feedback section. This poor engagement was again believed to be due to a lack of understanding of the success criteria which made the task too difficult (Shernoff et al. 2003, p. 177). However, unlike the Pupil C in lesson 1 Pupil F didn't request further guidance and was distracted even when guidance was given. This low level of engagement continued throughout the lesson and the pupil was actively disruptive at times. This was partially due to Pupil F's interaction with another pupil in the class. Both Pupil D (high attaining) and Pupil E (middle attaining) sustained a level 4 plus engagement throughout the entirety of the lesson. Once again, the global engagement was generally quite low during the self-assessment task.

Stage of the lesson	Level of engagement observed		
	Pupil D (High)	Pupil E (Middle)	Pupil F (Low)
Modelled answers	5	5	4 → 3 → 4 → 2 → 3
Written task	5	5 → 4 → 5	2 → 1 → 2
Self-assessment	5	4	2

Table 3: Level of pupil engagement observed for each task during lesson study 2 taken from Appendix 11.

Focus group interview:

Similar to the focus group interview following lesson study 1, it was apparent that the pupils enjoyed the lesson as a whole (Appendix 12). However, Pupil E stated that the task was

“intimidating” in case they gave the wrong answer, these feelings were also seen in a study performed by To and Carless (2016, p. 753). Even so, Pupil E identified that it was helpful because *“everyone can put their opinion in,”* suggesting that the pupil found the collaborative aspect of learning beneficial. This is supported by Retnowati, Ayres and Sweller (2017, p. 666-667) who suggest that collaborative learning is significantly beneficial and has been shown to improve outcomes. On the other hand, Pupil D was unable to decide whether going through the modelled answer as a class was helpful as they were unsure whether they *“prefer doing it alone or contributing ideas as a class.”*

During this interview the pupils began to stray away from the focus of the question and started to describe their handwriting. This was highlighted as a potential limitation of using interviews as a form of data collection by Kumar (2014). Prompting questions were used to ensure that the focus returned to the key questions and Pupil D was able to clearly link their learning to their writing by identifying that they needed to *“use more complex sentences and more descriptive vocabulary,”* to improve their writing.

Outcome:

Following the focus group interview it was unclear whether all three pupils had understood how to improve. However, the results in Table 4 suggest that the pupils had applied their learning and deepened knowledge of the success criteria to their written work. Both Pupil E and Pupil F’s quality of writing improved as they were able to meet many aspects of the PEDAL success criteria. Once again, the limitation of level 5 being the highest potential level was problematic for the high attaining pupil.

Pupil (Attainment)	Quality of writing (Level 1 – 5)	
	Before lesson study	After lesson study
Pupil D (High)	5	5
Pupil E (Middle)	3	4
Pupil F (Low)	2	3

Table 4: Quality of pupils’ writing before and after lesson study 2.

Action plan:

Overall, the modelled answers were received well as a class. However, levels of engagement with the lesson decreased during the self-assessment task. It was identified during the

reflection (Appendix 13) that pupils may benefit from a peer-assessment task as opposed to a self-assessment task. This change was made as peer-assessment has been shown to solidify learning by allowing pupils to reflect and build upon their prior knowledge (Reinholz, 2016, p. 302). Therefore, during the planning phase of lesson study 3, the self-assessment task was removed and replaced with a peer-assessment task in an attempt to deepen the pupils' understanding of the success criteria in an enjoyable and challenging manner. Once again, there were limitations with how the interview during this lesson study was conducted. The pupils were left to stray away from the main focus of the interview. This was partially due to the influence of a dominant character leading the discussion and temporary lack of direction in the questioning. This problem was solved through the use of prompting questions to return the pupils back to the topic of interest (Kumar, 2014). During the planning stage of lesson study 3 the researchers were made aware of methods to avoid this issue such as the use of prompting questions.

Lesson Study 3

This lesson study was implemented during a Geography lesson in a class consisting of 21 mixed ability pupils. The focus of this lesson was to describe a climate. The success criteria were to include set discussion points and to use literacy associated with the topic and more complex sentence structures. The lesson objectives were to mark two examples of work according to this success criteria and then produce their own climate description (Appendix 14 & 15). The success criteria were discussed in detail prior to completing the tasks.

Level of engagement:

The levels of engagement presented in Table 5 indicated that the pupils were highly engaged throughout the majority of the lesson. According to the observation pro-forma (Appendix 16) this suggests that the pupils were showing attributes of high attention and moderate to high effort throughout each stage of the lesson. The engagement level for Pupil I (low attaining) did however decrease during the explanation stage of the modelled answer task. As expected, the introduction of a peer-assessment task also appeared to prevent the pupils' level of engagement from decreasing during the assessment stage of the lesson as was previously seen when self-assessment was used as the form of AfL.

Stage of the lesson	Level of engagement observed		
	Pupil G (High)	Pupil H (Middle)	Pupil I (High)
Modelled answers	5	5	5 → 3
Written task	4 → 5	5 → 4 → 5	5
Peer-assessment	5	5	5

Table 5: Level of pupil engagement observed for each task during lesson study 3.

Focus group interview:

Once again it was apparent that the pupils enjoyed the overall lesson and enjoyed correcting their teacher (Appendix 17). However, Pupil H (middle attaining) communicated that they found the poor example difficult to mark because there was too much to correct. The pupils also communicated the benefit of going through the task as a class, supporting Pupil E's opinion during the focus group interview for lesson study 2. Pupil G (high attaining) stated that it was helpful to see *“other people's opinions and different views,”* Pupil H supported this stating that it was helpful to *“show your opinion to others.”* This once again supports the notion of collaborative learning and its benefits (Retnowati, Ayres and Sweller, 2017, p. 666-667). However, similar to the focus group interview performed after lesson study 2, only the high attaining pupil was able to communicate what they needed to do to improve their writing by linking their learning to the success criteria.

Outcome:

Table 6 presents the pupils' quality of writing before and after lesson study 3. Interestingly, the quality of writing for the middle attaining pupil showed no improvement, unlike the results observed in the previous two lesson studies. Given the pupil's engagement throughout the lesson and their responses during the focus group interview it is unclear why this was. Perhaps it was due to the difficulty they faced when correcting the poor example which was expressed during the focus group interview. This will require extra investigation to gain a clearer picture. Once again Pupil G (high attaining) was limited by the levels whereby the pupil's level was unable to increase since the pupil was already exceeding expectations prior to the study.

	Quality of writing (Level 1 – 5)	
Pupil (Attainment)	Before lesson study	After lesson study
Pupil G (High)	5	5
Pupil H (Middle)	3	3
Pupil I (Low)	2	4

Table 6: Quality of pupils' writing before and after lesson study 2.

Action plan:

Moving forward, further investigation needs to be considered regarding the cause of Pupil H's lack of improvement in their quality of writing. Strategies also need to be devised to keep the pupils on track during the explanation of the success criteria during the model answer task and the amount of time spent on the 'mark your teacher's work' task needs to be considered.

Discussion

The purpose of this study was to address the question, "Can we improve pupils' quality of writing through student engagement with model answers." The study was implemented through three lesson studies which consisted of a 'mark your teacher's work' task, a written task and an assessment for learning task. The engagement of the pupils with each task was assessed and levelled and the quality of pupils' writing prior to the lesson study and after the intervention was levelled and analysed according to the pupils' level of engagement.

The aim of the 'mark your teacher's work' task was to improve motivation as a result of its fun nature. A further aim was to improve teaching and learning by engaging the pupils in a fun activity which promotes critical thinking and problem solving as a means to develop a deeper understanding of the success criteria and the skills needed to improve their own writing (Donaldson, 2015). Overall, the pupils appeared to engage with the model answer resources and expressed their enjoyment of the task during the focus group interviews. The majority of the pupils stated that it was fun and that they enjoyed the challenge of marking their teacher's work. However, when combining the results of the three lesson studies (Table 7) only 67% of the pupils sustained a level 4 plus engagement. This indicates that a third of the participants showed medium to low engagement during this task. This was considered to be due to the pupils' lack of understanding of the success criteria and resultant difficulty in accessing the lesson content (Shernoff et al. 2003, p. 177). Overall, pupil engagement improved slightly

during the written task during which 78% of pupils sustained a level 4 plus level of engagement. Interestingly 100% of pupils sustained a high engagement during the peer-assessment task whilst only 67% were highly engaged in the self-assessment task. This supports Vickerman's (2009, p. 221) suggestion that peer-assessment is a beneficial alternative method for engaging pupils in assessment for learning.

Stage of the lesson	Percentage of pupils at a sustained level 4+ on the activity-specific engagement scale (%)
Modelled answers	67
Written task	78
Self-assessment	67
Peer-assessment	100

Table 7: Percentage of pupils sustaining a high engagement at each stage of the lesson.

When asked about the written task some pupils identified that the modelled-answers helped them to improve their writing by providing them with an example to help them and to compare their work to. This supports the argument that model answers can be used to illustrate high-quality answers (To and Carless, 2016, p. 756). The majority of pupils also suggested that going through the model answer as a class was helpful as it encouraged a collaborative understanding of the success criteria (Retnowati, Ayres and Sweller, 2017, p. 666-667). The engagement with the model answers and the communicated benefits of this task was supported by the improvement seen in the quality of writing for the majority of pupils. This improvement in the pupils' quality of their written work was seen in 5 out of the 6 that were not already achieving a level 5 and exceeding expectations prior to the study. Overall, these pupils increased the quantity of their written work and used more complex sentence structures, more subject specific literacy and expanded their use of vocabulary within their pieces of writing. However, it is unclear whether the use of model answers was beneficial for the high attaining pupils since the levels of quality were constricting and failed to allow for any improvement. However, the high attaining pupils communicated the usefulness of the model answers within the focus group interviews by demonstrating that they were able to link their learning to the success criteria. This indicated that they understood how to improve their written work but a conclusion can't be made as their understanding was unable to be assessed via the written tasks that were provided to the pupils.

Limitations, Implications and Conclusion

A tentative conclusion can be made that the model answers provided the pupils with the motivation to learn through the provision of a fun, challenging and rewarding activity (Öqvist and Malmström, 2018, p. 155 and Bell, Mladenovic and Price, 2013, p. 772) whilst also providing the pupils with the tools improve their writing. This was evident through the overall sustained high engagement with the tasks and the improvement in the quality of the writing. This gave pupils the opportunity to develop a deeper understanding of the success criteria, building their ability to assess different levels of writing and eliminate the flaws (To and Carless, 2016, p. 746 and Orsmond, Merry and Reiling, 2002 p. 310). However, it is important to note that the accuracy of research findings is highly reliant on the sample size. Given that the sample size of this study was only 9 pupils, it is impossible to confidently confirm whether these results are transferable and whether the results can be generalised (Kumar, 2014). Furthermore, this study omitted to take into account the pupils' level of engagement when they were writing their previous piece of writing used as a comparison point in this study. This has the potential to affect the validity of the results given the multiple variables that were unrecorded which could have affected the quality of their previous written work. In addition to this, the study failed to take into account the influence of the learning environment during the two different pieces of work. A further two-phase study would have to be performed where the pupils are asked to produce a piece of writing based only on the success criteria during the first phase and after the provision of model answers during the second phase. This study should also use different levels of attainment which are not constricting to the higher attaining pupils to confirm whether the use of model answers is beneficial for all pupils.

In addition, there were multiple limitations to this study from a methodological standpoint, the most prominent were manner in which the focus group interviews were conducted and the levels of measured outcome. The limitations related to the interview were the skills of the interviewer, the nature of the interaction and the inconsistency introduced through the use of multiple interviewers (Kumar, 2014). Whilst using the interview pro-forma gave core data points to consider, the data was lacking in richness. The levels of writing quality that were developed for this study also provided limitations to the measured outcome since some pupils were attaining a level 5 prior to the intervention making their progress immeasurable. However, these levels were necessary in order to make the quality of writing comparable across the AoLEs. Moving forward, a different method will be devised to standardise the pupils' quality of writing in order to avoid this limitation. A further limitation to this study was the risk of the bias introduced by the Hawthorn effect. This was seen during lesson study 2 and lesson

study 3 as a result of the pupils knowing the observers and reacting to their presence. This relationship between the pupils and the observers also had the potential of introducing observer bias (Cohen and Manion, 2007 and Kumar, 2014). Even so, the reliability of the data can be seen through the consistency in the engagement levels assigned to the pupils by each observer. Moving forward, this study could be improved by including more thorough observation notes, in the form of field notes (Cohen and Manion, 2007) and through the development of the interviewer's skillset (Kumar, 2014).

Despite these limitations, the findings have important implications for future research and future teaching practice. When evaluating pupil engagement with the model answers it was clear that the pupils found this a beneficial task and enjoyed engaging with the lesson. Furthermore, an improvement in the majority of the pupils' quality of writing was observed. Model answers will be implemented throughout the second professional teaching experience in a continued attempt to improve the quality of scientific method writing. This will be done with a view to increase pupils' engagement with written literacy through fun and challenging activities. However, in order to confidently answer the question, "Can we improve pupils' quality of writing through student engagement with model answers" further research at a much larger-scale needs to be performed. Moving forward in the teaching profession it would be interesting to implement this larger-scale study to develop more conclusive results. During the second professional teaching experience model answers could also be used where possible in an attempt to improve extended writing GCSE exam questions. This will be done as a result of the findings generated during the literature review phase of this study.

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