

“Design, conduct, and critically evaluate a close to practise research project focussing on the model of the transformative teacher in developing practise that has a positive impact upon the learner.”

Is the use of a traffic light assessment for learning method of pupil self-assessment an effective method of measuring pupil understanding throughout a lesson, in a secondary school context?

Student Number: 1900460

Student Name: Dylan Bridges

Module Number: ECAD7004

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Targets from Previous Assignments

	Target	What I've done this assignment
Target 1	To consistently use Harvard style of referencing at all times as opposed to mostly.	Ensured that the style referencing formulas for different types of sources were referred to each time a reference was written.
Target 2	To ensure research contains bias language.	Ensured the wording of sentences where research is being considered critically – to ensure a sense of bias is not being communicated.
Target 3	To ensure that multiple sources are used when referencing AFL – e.g. not just Black and Wiliam.	Used different sources of information regarding assessment for learning and conducted further reading around the topic in order to read other authors within the field.

Introduction

This research project sets out to conduct a lesson study surrounding the area of assessment for learning; more specifically, the use of a traffic light system to rate pupil's understanding throughout the lesson. Lesson studies are close to practise research projects where a live observation of a lesson is used to conduct a study, where teachers collaboratively analyse findings, and use them to positively influence future lessons (Lewis, Perry and Murata. 2006). The purpose of the lesson study used as a part of this project is to be able to evaluate the effectiveness of using a traffic light system as a method of gaining an understanding of pupil understanding throughout the lesson at intervals. The insights gathered will be used to develop practise that has a positive impact upon pupils learning.

Research Context

This research topic was decided upon, due to the researcher recognising that many assessment for learning methods either do not consider the how the participant's peers affect how they vote, or do not gather a rating from the whole class. As a result, the researcher considered merging two methods proposed by Dylan Wiliam (2012) and Black et al (2004); lollipop sticks which are conventionally used to randomly generate names for questioning (not including questioning the whole class), and the traffic light system to rate understanding (peers have effect on how pupils vote). Therefore, a set of three lollipop sticks coloured as the traffic light system will be used by each pupil, to respond to questions to gauge understanding at intervals throughout the lesson. This will be done with pupils closing their eyes to prevent peers having an effect on another pupil's response. For the researcher's classes, this means everyone's understanding will be measured, and decisions will be made based upon the ratings that will best promote pupil learning within the class. The pupils observed during this research project are in Year 10/KS4, and are therefore 14/15 years of age, and are completing their GCSE in Business.

Literature Review

Assessment for learning is referred to as gathering and analysing data with the aim of using it to gauge pupil understanding and learning within a classroom, and using this knowledge to base where they need to go next with their learning, and how best to get there (Broadfoot, et al. 2002). This definition can be taken further, with the addition of assessment for learning's ability to act as a form of feedback to the teacher, to base decisions of change to teaching style, method or direction (Black, et al. 2004).

Assessment within a traditional classroom before the rise/recent focus of assessment for learning, assessment was used as a summative method, where a teacher provides pupils with relevant information and gauges whether they retained it with an after-topic test (Chappuis and Stiggins, 2002); often moving on regardless of the result. This does not aid pupil's learning as it

often disadvantages pupils who are not able to learn at medium-fast paced environments, and leaves those as well as others who have not understood behind (Chappuis and Stiggins, 2002). This therefore prevents learning within the classroom for some. The summative assessment method is however useful for ranking, collecting summative data, accountability, and even controversially competence/ability (Black, et al. 2004), and is arguably an essential form of assessment (Stiggins, 2002). But, the use of assessment for learning/formative assessment alongside this method is crucial in catering for all pupils, as it allows the identification of those in need of greater help, and facilitates learning for all (Stiggins, 2002. Chappuis and Stiggins, 2002. Black et al, 2004). This therefore allows a fair chance to all during the summative tests taking place. Assessment for learning should arguably be adopted more heavily within schools, in order to cater for and help all students within the classroom environment, but still alongside summative assessment (Stiggins, 2002). Birenbaum et al (2015) contrast this view to some extent, stating that a synergy between the two is unlikely to succeed due to contrasting messages of the two; as one calls for accountability and sticking to what needs to be taught and within a fixed time frame and the other calls for a more fluid approach to lesson structure and timings. Birenbaum et al also argue that educational policies and curriculums are the main cause for the focus on summative assessment and therefore the overlooking of assessment for learning being heavily used. This creates the impression that the new curriculum for Wales, with a new focus on assessment for learning (Donaldson, 2015), may allow teachers to incorporate assessment for learning more frequently, due to the lesser focus on standardised testing and summative methods and greater focus on AFL comparatively with the current curriculum (Stiggins, 2002. Birenbaum, 2015. Donaldson, 2015).

Assessment for learning is considered by Black et al (2004) to be split into three subheadings; Questioning, feedback to pupils, and self/peer assessment. Birenbaum et al (2015) mirror the view that these three factors form assessment for learning. The method of assessment for learning adopted during the lesson study as a part of this research project considers questioning and self-assessment – therefore, feedback and peer assessment will not be discussed as a part of this literature review.

Questioning is often used incorrectly within classrooms, meaning it does not evoke potential learning benefits. This is because questioning without prior planning of questions that will engage the necessary material or questioning that only suits those more capable of accessing information in shorter, more fast paced environments is ineffective to the majority (Black, et al. 2004). Meaning, even those who are able to access recently learned facts and information quickly, are likely to have surface learned, and the information has not been applied to prior knowledge, and therefore is less likely to be retained as the pupil has not accessed deep learning (Entwistle, 2000) as they have only accessed low level learning (Cooper, 2010). Teachers on average allow less than 1 second between asking a question and making an assumption that pupils do not know the

answer (Black, et al. 2004). Waiting a further several seconds results in far more in depth answers and high quantity of answers (Black, et al.) and avoidance of question repetition to encourage answers is more likely to elude pupil confusion (Carless, 2005). Frequent repetition (Carless, 2005) of questioning that challenges all pupils in a way suggested by Vygotsky's zone of proximal development, as opposed to just some, in order for them to elicit learning from the use of questioning (Berk, 2009) is a more effective questioning strategy. Questioning is also suggested to be done effectively with use of random questioning with use of lollipop sticks (Wiliam, 2012. Kennedy, 2018). In both Wiliam and Kennedy's studies, it was found that those already confident in answering questions set generically to the class remained confident in doing so; whereas those previously under confident in answering questions showed increased confidence with use of the lollipop stick method. This suggests that this method of randomised questioning engages all pupils and provides benefits to all involved. However, it is impractical to ask every member of the class each time a question is required, in order to get a reading from all pupils within the class, meaning most of the class were left unchecked for understanding. This after all the purpose of assessment for learning. Also, in both cases, those confident in answering questions prior to the lollipop method's use did show frustration due to not being allowed to answer freely when they liked when using the lollipop method. These reasons being the cause of the researcher of this project's desire to adapt this method to include all.

Self-assessment is considered as a part of this research project as Black et al (2004) state that a pupil can only achieve a learning outcome should they understand what is asked of them; self-assessment acts as a way of showing how well they understand. Dylan Wiliam (2012) states that a traffic light system is an effective method of getting **all** pupils to participate in the self-assessment, assessment for learning method. This contrasts the lollipop stick's ability to do so, however the way in which it is used within Black et al's study (2004) may not make full use of the method. This is because it is suggested that the traffic light system of self-assessment should be used within pupil's workbooks/sheets to score their understanding after the topic is finished (Black, et al. 2004). This shows similar disadvantages to summative assessment, where those who did not understand are left behind and are left confused for the whole lesson (Chappuis and Stiggins, 2002). This may leave pupils demotivated and disengaged from their work as they are left requiring help (Falout, Elwood, and Hood. 2009). Instead, using the same method but as a way of responding to a teacher's hinge question (Wiliam, 2012), or as a way of rating their understanding of a topic (Black et al, 2004) but physically to the teacher as opposed to within their work books, may provide a more beneficial outcome.

Peers can have significant effect on pupil engagement within classrooms, due to the threat of maltreatment as a result of not fitting the classroom trend (Buhs, et al. 2006. Ryan, et al. 2001). This is most likely to affect those who are already socially excluded (therefore already trying to obtain social belonging (Maslow, 1947)), and those with highest social/academic reputation (Ryan,

et al. 2001). The treat of maltreatment due to not socially fitting with their peers, as well as actually becoming excluded both result in demotivation and disengagement by pupils within a task (Buhs, et al. 2006. Ryan, et al. 2001. Furrer, et al. 2014).

Lesson study design

The lesson study conducted as a part of this research will be conducted as follows. Pupils will throughout the lesson be faced with 2 hinge questions at appropriate intervals of the lesson when moving on to different tasks, to ensure their understanding is of a high level before the task is set. The 3 pupils observed throughout the lesson, will be a part of a focus group interview following the lesson. The researchers will then reflect on the lesson, make changes if necessary, and repeat. The factors just mentioned will now be discussed further, along with other relevant factors.

A lesson study is conducted as a part of this research, which as previously stated, is a close to practise research project where a live observation of a lesson is used to conduct a study, where teachers collaboratively analyse findings, and use them to positively influence future lessons (Lewis, Perry and Murata. 2006). Lesson study is therefore action research, where professionals are working to improve their own practise through collaboration and self-reflection (Cohen, Manion and Morrison. 2007). Lewis (2011) and Murata (2011) agree that lesson studies allow teachers to collaborate on lesson planning and gain further insights from one another, thus making the research lesson (Cerbin, 2011) as accurately planned as possible to therefore produce the best results from the research. Lee and Tan (2020) disagree that lesson studies are accurate, due to the high level of potential bias in the study method, an example being: the observing teacher(s) disagreeing with the teaching methods/styles used by the teacher conducting the research lesson, and therefore noting negative observations as they themselves disagree. A similar view of action research, or in this case 'lesson study', is shared by Cohen, Manion and Morrison (2007) as they state that professionals within schools/subject departments/individual teachers may often be reluctant to share ideas and seclude themselves and their ideas from other views that rival their own. This may be problematic in the case of a lesson study/action research as collaboration is required. Communication may be problematic as a result, as Lee and Tan (2020) allude towards. If differences aren't aired openly and welcomed by peers which is what is required by action research (Cohen, Manion and Morrison. 2007), then problems will surface later in the study causing inaccuracies in results or quality of the lesson planned – possibly in the way showed in the example provided previously (Tan and Lee. 2020). These views, however, is pre-disputed in Lewis (2011) and Murata (2011)'s papers, as they state that researchers must reflect and plan carefully beforehand, implying that such clashes in opinions over techniques/methods would be dealt with prior to the research lesson itself; But, as stated by Cohen, Manion and Morrison (2007) – this is not always possible.

For the lesson study's observation, both structured and unstructured methods of observation will be used (Cohen, Manion, Morrison, 2007) using a non-participant observation approach (Arthur, 2012). Structured observation, with use of a rating scale, will provide the researcher with quantitative data that can be checked for trends and patterns within the information collected (Cohen, Manion and Morrison. 2007). Phellas, Bloch, and Seale (2011) add that structured observations allow easy comparisons to other sets of data; in the case of this research, easily allows the comparison of the two research lessons. The rating scale used will be based upon the Leuven scale, which will be used to evaluate pupil wellbeing and involvement throughout the lesson at intervals. The use of the Leuven scale allows the researcher to gain an understanding of pupil well-being (level of satisfaction with what they have been presented with) and their involvement (to which level they have entered deep-learning state and are engaged with the task) (Declercq, Thomas and Leavers. 2013). This will allow the researcher to easily record the information, by observing the focus group within the class, and comparing their behaviour to the levels of wellbeing and involvement set forward by Laevers and Heylen (2003). Unstructured observation is said to enable the researcher to capture discoveries that were not previously considered (Phellas, Bloch, Seale. 2011), which is why additional observation notes will be made alongside the structured rating scale used (As shown in appendices). Qualitative observation notes allow the researcher to reflect on information that may have somewhat been overlooked with other methods, however, are argued to take too long to make and distract from the observation taking place (Mulhall, 2002). In addition to this downfall, observation notes can lead to researcher bias, as it is known for bias notes to be taken when the observer is looking for something specific due to how the researcher perceives and interprets an occurrence (Cohen, Manion, and Morrison. 2007). Cohen, Manion and Morrison however state that providing success factors are put in place beforehand if something specific is being observed for, then observation can remain unbiased. Thus meaning, should a limit be set on what is considered as what they are looking for to discourage false interpretation, then bias can be limited.

An ARC model will be used in order to reflect upon each research lesson conducted as a part of the lesson study. The ARC model can be viewed within the appendices. This model is useful as it allows the researcher to note initial feelings about the lesson observed and note it within context of the study area. This is useful as it allows the researcher to compare what was seen with expectations as well as knowledge of the assessment for learning subject, therefore allowing a natural evaluation of success. It then highlights what could remain the same and what should be changed. – which suits the setup of this lesson study.

Focus groups will also be used as a way of testing the effectiveness of the method of assessment for learning used within the lesson study. Focus groups were chosen to be used as it allows and encourages discussion between the participants, which could provide beneficial insights to their thoughts beyond what would be found from individual interviews (Morgan, 1988).

This will be done by conducting focus group sessions with those pupils within the class that were chosen to be a part of the research. The participants were selecting using simple randomised selection method (Cohen, Manion, Morrison. 2007), by drawing names from a tub. Though this method does carry a possibility of the sample not representing the class as a whole, it is the most random and therefore containing the least possible bias (Cohen, Manion, Morrison. 2007).

Ethical considerations

During this research, many ethical considerations have been considered throughout the process, and BERA (2018) guidelines were followed throughout. A first example regards consent of the participants. Consent forms from both the participant and their guardian were gathered before the process began, and measures were put in place to allow the participant to feel comfortable revoking their consent at any point and leaving the study. Additionally, a second example could be that anonymity of participants has been kept throughout the entire process, with their names only appearing on consent forms. These will be appropriately destroyed as soon as they are no longer required. An ethical approval form was also completed and signed off as a part of this process, meaning the procedures followed as a part of this research met required guidelines.

Lesson Study 1

During the first lesson study, all pupils achieved the first learning objective of the lesson, which is displayed in the appendix ___, which are the responses during the first focus group (Pupils 1, 2, and 3). This lesson objective was to understand that businesses do negatively affect the environment, which directly links with lesson objective 2; how do they have an effect upon the environment? This was also commented on by all three pupils when asked to recall what they learnt during the lesson. The third and final lesson objective was commented on by 2 out of 3 pupils; which was what businesses needed to do in order to improve their behaviour e.g. sustainable business activity. The pupil who did not obtain the last learning objective displayed signs of low well-being and low involvement at the beginning of the lesson. A problem in understanding was highlighted after the first round of hinge questioning, which after being dealt with, well-being and involvement increased. Well-being and involvement of pupil 1 also increased dramatically for pupil one after the first hinge question and remained high throughout the lesson. Pupil 3 showed a slight decrease in well-being after the first hinge question, which returned following the second. However, involvement increased from an already high score following the second hinge question. Overall, based on the quantitative data as well as a question assessing understanding of the lesson as a whole (summative assessment to a small extent), understanding of the lesson was overwhelmingly high in the sample of pupils selected. Along with this, 2 out of 3 pupils showed positive reactions only to the hinge question points in both well-being and involvement, and the other showing positive reactions overall.

All pupils displayed positive reactions to the traffic light system being used within their lessons, with all either strongly agreeing or agreeing of its ease of use, to it being a good way of communicating understanding, to it helping during the lesson, and to wanting to use it again. Pupils 1 and 2 agreed that the method aided their learning whereas pupil 3 believed they would have got to the same point of learning without it but could see how it could help others. Pupils 1 and 3 bring particular interest in their responses and reactions to the use of this assessment for learning method. Pupil 3 showed a decline in well-being when the method was first used. The reason for this was highlighted during the focus group, which turned out to be that pupil 3 liked the teacher asking questions generically to the class as a way of testing before moving on, as they were usually the ones to answer. They liked this and used it as a way to make sure they were on track before getting on with the work. They were then shocked and anxious with the new method initially, as they were not sure that it would provide the same reassurance. Pupil 1 displayed signs of low wellbeing and involvement at the beginning of the lesson, and knowing the pupil, this is often the case in lessons. This makes their reaction to the method even more interesting, as they showed high levels of each by the end. Pupil 1 liked how it checked for misunderstandings and gave them confidence and voted to strongly agree to the question asking them if they wanted to use the method again.

The lesson could be improved further by not telling the participants why the hinge questions were being inputted into the lesson and why the method of the traffic light system was being used. This is because, pupils were given the answers to some of the questions in the focus group and therefore made the question meaningless and therefore no meaningful data was collected. Another change to be made is when during the lesson the hinge questions were inputted. During lesson 1, they were used at the end of each of the 2 main learning objectives. However, going forward, they will be used before pupils are set on to each main task (2 tasks in total). This works better, as it allows the checking of understanding of all learning objectives. This reduces the chance of pupils lacking understanding as demonstrated in pupil 2.

During lesson study / research lesson 1, several points have been highlighted regarding the effectiveness of the traffic light system as a method of checking understanding as assessment for learning. The first of these is that pupils enjoyed the use of this method and would like to use the method again. Another is that pupils did understand why the method was being used. Although they were told the purpose of the method during the lesson, that doesn't guarantee their understanding. The pupils were able to explain why the method was being used, which suggests that pupils are able to see the benefits of it. This was also suggested by all pupils saying that they were either aided by, or could see how pupils could be aided by, the use of the method. An interesting point that was learnt during this lesson, is that those pupils who usually answer questions that are set to the class, are used to it and expect it. Even more interestingly, these

pupils could potentially rely on this happening in order to gain from it, whether that be academically or socially.

Lesson Study 2

All pupils show an overall increase in well-being and/or involvement after the introduction of the assessment for learning method used. Pupil 4 was very disengaged and unwilling to participate initially, but after the method was used to gauge their understanding, support was put in place to help, and a scaffolding method of differentiation was given. This lifted both involvement and well-being. Pupil 5 seen an increase in both involvement and wellbeing, and again, had a problem highlighted by the use of the assessment for learning method. It's worth mentioning here, that this pupil (pupil 5) is very hard working but is socially quieter than other members of the class, so without this method, this lack of understanding may have initially gone without being noticed as they may have been less likely to have asked for help. Pupil 6 initially had no change in well-being and involvement after the use of the AFL method, however, did see a decrease in involvement after the second hinge question. The reasons for this will be looked at later on.

All pupils were able to give their own interpretation of why the method was being used and all pupils either agreed that it aided their learning, or could see how it could help others (pupil 6 stated that they didn't feel it helped them, but could see how it helped others). 2/3 pupils stated that they agreed or strongly agreed that the traffic light sticks were easy to use, were a good method of providing a rating of understanding to the teacher, were helpful in the lesson, and helped the lesson progress. They also stated that they would want to use them again.

Though pupil 6 did not like the method themselves, they stated several times within the focus group discussion that they understood why it was being used and understood the benefits of it to some. They however, felt a question to them specifically would have had the same effect. This suggests that like pupil 3, pupil 6 likes having the reassurance of them being correct by them answering a question set generically to the class, which is a method that is usually used within their classroom. It may also suggest that they are known for being the one able to answer those questions, and therefore may get benefits from it socially; meaning they dislike the new method as everybody is on a par. Pupils one and two both agreed that they were benefitted by the use of this AFL method and felt as though it progressed the lesson in the correct way to help all. The two pupils highlighted that at one hinge question point, the level of understanding for most was rated as red – highlighting a problem at a whole class level. The few who rated it green were given an extension task to get on with whilst the teacher recovered the information. Both felt they benefitted from this being done and were more comfortable as a result.

If this lesson study were to be repeated, a small change could make the process run more smoothly and provide more comparable results. Firstly, the use of control groups would have been beneficial. This is because, the researcher had experience with the class being used, so was able

to recognise pupils who may have behaved differently as a result of the AFL method being used. However, a lesson with both of the classes but using normal questioning first, may have provided insightful comparisons – especially with pupils 3 and 6, who preferred normal questioning. This would have allowed comparison of their well-being after the new assessment for learning method, to after them being asked a question to which they knew the answer to. Assumedly, their well-being would have been higher after they completed a question correctly in front of the class. Another potential change would be to ask the question ‘could you see yourselves getting used to this method over time and receiving benefits from it in the future?’. This would have been beneficial to hear from regarding pupils 3 and 6.

From this research lesson, it has been noted that again, a pupil who likes normal questioning as they receive benefits from it personally – whether that be socially or academically – dislikes the new AFL method due to it taking away the comfort they got from normal questioning. Another observation learned from this lesson study is that in both lessons, a pupil who is known for lower involvement was benefitted from the method, and their engagement increased as a result of their needs being directly catered for. Additionally, a pupil who normally would not publicly raise their hand to ask for help, received help as a result of this method.

Discussion of Research Findings

The first point that particularly stands out as a research finding, is that pupils who usually gain social or academic benefit from being the pupil within the class to answer questions (Ryan, et al. 2001), are usually the only pupils who are disapproving of the AFL method used within this lesson study, or use of a traffic light based system/lack of direct questioning. This is consistent with the results formulated by Wiliam (2012) and Kennedy (2018), showing a trend in how these pupils behave when they are no longer able to receive the reassurance that they are used to getting from being directly asked a question or always being allowed to answer on behalf of the class. The pupil highlighted as displaying these emotions as a part of Wiliam’s study (2012) showed the exact same behaviour and comments made about the method as pupil 2 as a part of this study. This leads to a thought to be considered when planning assessment for learning methods, in the fact. That all should be catered for – so is it possible to differentiate assessment for learning?

A second point that stands out is that all pupils benefitted in some way from the use of the method, and real-life examples of how AFL works become apparent in the lesson study. Though 2 pupils were disapproving of the use of the method, they did actually benefit from the method, with well being or involvement increasing. The disliking of the method only came because they were no longer to seek the questioning that they personally enjoy. This is consistent with the literature surround AFL, as it is very difficult to find a writer who disagrees with the fact that AFL significantly aids learning within a classroom. This leads the researcher to believe that possibly, the negative

reaction was only the result of change, and possibly, over time the pupils may begin to approve and enjoy the use of the method.

A third point that stands out from the gathered research is that the ease of replicating the effectiveness of assessment for learning was unexpected, with 2 pupils having their lessons completely turned around and made into a positive learning experience as a result. This was unexpected by the researcher, as they expected subtle hints of effective practise as opposed to clear positive changes in understanding as a result of the use of the method. This suggests that the strong belief held within the literature, that AFL can massively aid pupil learning (Stiggins, 2002. Chappuis and Stiggins, 2002. Black et al, 2004), should be widely considered more seriously by schools, and take lesser focus on summative assessment and more on formative assessment that may actually make a difference to their learning overall.

Conclusion

In conclusion, a lesson study was conducted in order to gain an understanding of how effective the use of a traffic light system is at gauging pupil understanding as a whole within the classroom. The results gathered suggests that methods that gain a whole class understanding – such as the traffic light method – are possibly more effective to most pupils than those who choose random pupils from within the class to give responses. This is because, the teacher can control the lesson as of that point and make necessary changes to the lesson that was planned, providing those who require additional help the assistance they need, whilst simultaneously identifying those who believe they are ready to move on; therefore, facilitating differentiation opportunities.

The effectiveness of the method of data collection used by the researcher varies. The use of the Leuven scale, though identifying several useful reactions, was not substantial enough to collect all data required for the lesson study. Therefore, an over reliance was used on additional observation/field notes. This proves problematic, as field notes can be argued to be unreliable, as there is room for personal/observer bias. However, the majority of the data used to formulate ideas and conclusions of the lesson study, came from the focus group section. This part of the data collection worked incredibly well and provided insightful data. An example includes the positive reactions surround the method from both pupils who are usually lacking involvement and engagement with class work due to the help they received as a result; suggesting the methods effectiveness. Another example being the reactions from the two pupils who disliked the method as they were unable to answer questions as they enjoyed doing. Based on the Leuven scale readings, these pupils would have been considered as negative evidence of the use of the method, but by adding the qualitative information, it justifies their negative reaction and somewhat revokes the negative impression of the AFL method that the quantitative data suggests.

The data gathered as well as the conclusions made as a result are consistent with many pieces of literature surrounding the assessment for learning field. This may provide the findings of

this lesson study some credibility, as similar findings were found by authors at the forefront of the field. This provides reassurance that the findings here are worth basing lesson planning upon, as they are likely to have a positive impact upon learners, which will be highly considered when planning which assessment for learning methods will be used by the researcher in the future.

Recommendations

This research leads to the recommendation that assessment for learning should be used more heavily within classrooms, and traditional AFL methods such as random name generation can still lead to slips in understanding within classrooms. Therefore, methods that encompass the class as a whole, where a response is given by all simultaneously will lead to better levels of understanding. Moving forward, this will aid the researcher when planning lessons and planning the use of AFL within their lessons and will help incorporate more effective methods into their practise. This research could help provide an informative insight to those wanting to look at either the effectiveness of AFL, or possibly whether some pupils are in fact negatively affected (even just short term) by the use of assessment for learning. If the researcher was to repeat this lesson study, they would firstly make use of control groups to allow greater comparison between the use of and the lack of assessment for learning which would provide more insightful results. Additionally, they would add a subsection reviewing the 2 students who disliked the method due to them not being able to answer questions and look into in more depth the potential reasoning for this.

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