

A critical evaluation and the identification of next teaching and learning steps focusing on a case study of an individual learner or a group of learners, based on an observed critical incident

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Introduction

As stated by Tripp (2012, p. 8), “a critical incident is an interpretation of the significance of an event.” This means that critical incidents are subjective. This is because anything can be made to be a critical incident. Critical incidents can be common events that happen in everyday life (Tripp, 2012). For teachers this is often in the classroom during the school day. These incidents are considered critical because they can be important in helping teachers to identify and understand any underlying trends, motives, or structures (Tripp, 2012). Therefore, it is important to be aware of any such incidents as to better understand the learners and how best to help them by changing teaching practices to best support them. Not all critical incidents are negative, and it is also important to be aware of these so that one can evaluate good practices and try to implement them in future to support learners. For an event to be a critical incident, value judgement must be made (Tripp, 2012). The basis of said judgment is the significance one attaches to the meaning of the incident (Tripp, 2012).

The aim of this paper is to critically evaluate a critical incident witnessed during a lesson. The incident was witnessed in a year 4 class at 9:30 in the morning in a Primary School in Swansea. The critical incident in question pertains to the use of the assessment for learning (AfL) strategy of questioning. When the teacher in this class asked a question, the students put their hands up to answer. What one noticed was that it was the same students who were putting their hands up to answer and several students did not participate and seemed disengaged. As someone who subscribes more to a social constructivist theory of learning, this stuck out to me. This is because the students who did not engage with the questioning forfeited the opportunity to interact with the environment; this includes interacting with the teacher. This interaction with the environment and indeed in a social context with the teacher is a fundamental aspect of social constructivism (Amineh and Asl, 2015; Vygotsky, 1978).

Like the theory of constructivism, on which the foundation of this theory is based on, social constructivism hinges on the fact that learning and development requires the learner to be active (Amineh and Asl, 2015; Vygotsky, 1978). Similarly, both theories mention that learning is an internal process rather than an external process which behaviourism believes (Amineh and Asl, 2015; Vygotsky, 1978). This means that by not engaging with the questioning posed by the teacher, those students may be forgoing their learning and development.

This paper will firstly, look at previous literature pertaining to AfL, discuss its importance and look at the AfL practice of questioning. In the next section, the case study, on which this paper is discussing, will be examined to highlight the critical incident and how it relates to the literature.

After that, appropriate teaching and learning methods will be discussed, looking at other methods of questioning to determine their usage in the class. The penultimate section will look at how the critical incident will shape one's own pedagogical choices for the future. All of this will help to conclude how the use of hands up questioning may not be the best method and what other methods can be used instead.

Literature review

AfL, also known as formative assessment, is a way teachers can assess student comprehension of a topic whilst also aiding student learning (Black and Wiliam, 1998; Dixson and Worrell, 2016; Wiliam, 2011). AfL can show teachers where students are in their learning, where they need to go, and if teaching needs to be modified to help students obtain the desired learning outcome (Dixson and Worrell, 2016; Wiliam, 2011). This makes AfL an important tool for teachers to use to help students with their academic success. AfL strategies are embedded in lessons and are considered indistinguishable from teaching and learning (Black and Wiliam, 1998; Dixson and Worrell, 2016; Welsh Government, 2020; Welsh Government, 2022; Wiliam, 2011). By embedding AfL into lessons teachers can get an idea of where students are at in their learning right there and then; this is useful as immediate feedback can be given (Black and Wiliam, 1998). AfL is important in Wales as the Welsh Government is placing a greater emphasis on formative assessments over summative assessments in the new curriculum (Welsh Government, 2020; Welsh Government, 2022). This means that teachers need to be adept in AfL strategies.

One method of AfL is questioning. Effective questioning is a key tool for AfL (Harunasari et al., 2023; McCarthy et al., 2016; Wareing, 2012). This is because questioning can give teachers an insight into where students are in their learning, a fundamental aspect of AfL (Harunasari et al., 2023; McCarthy et al., 2016; Wareing, 2012). Furthermore, effective questioning can help students deepen their understanding of a topic and retain the information (Harunasari et al., 2023; McCarthy et al., 2016; Wareing, 2012). Additionally, effective questioning can help students develop critical thinking skills through the use of open-ended questions (Buchanan Hill, 2016; Harunasari et al., 2023). Critical thinking is a necessary life skill and is noteworthy as the Welsh Government, (2020) has outlined critical thinking as an integral skill needed to meet the Four Purposes of the new Welsh curriculum. Therefore, questioning would seem a worthwhile strategy for teachers to employ in the classroom as it not only aids student understanding of a topic but can also develop skills pertinent to the Four Purposes.

For students to reap the benefits questioning can have, it needs to be effective. In 2011, Ofsted found that the use of questioning was often underutilised and overlooked (Ofsted, 2011). Furthermore, the report also found that the questioning that was used was ineffective (Ofsted, 2011). One reason for this could be the lack of sufficient wait time between the teacher posing the question and moving on. This has been a consistent problem in education and can persist in classrooms to this day (An and Childs, 2023; Mahmud, 2019; Rowe, 1986; Wareing, 2012; Wasik and Hindman, 2018). Research from multiple sources has shown that the average wait time between a teacher posing a question and moving on is around one second (An and Childs, 2023; Mahmud, 2019; Rowe, 1986; Wareing, 2012; Wasik and Hindman, 2018). This is insufficient time for a student to adequately formulate a response. Wareing, (2012) suggests that waiting three to five seconds is more appropriate for students to formulate a response. This is backed up by more recent literature such as Mahmud, (2019) and An and Childs, (2023) who mention how waiting three seconds after posing a question can increase student participation, increase the length and accuracy of given answers, and improve student's academic achievement test results. Therefore, it would be beneficial for teachers to allow for a longer pause time after posing a question to adequately allow students to formulate a response.

There are several questioning strategies teachers can use in the classroom. A popular method is getting students to raise their hand to answer questions (Wiliam, 2014). This may not be an ideal form of questioning. Etemadzadeh, Seifi and Far, (2013) mention that when a teacher poses a question, only a couple of students may raise their hands. This shows a lack of engagement. Wareing, (2012) also mention that students who are not confident in their ability are less likely to participate and may become disengaged. This means that lower ability students or students with anxiety are less likely to engage with this style of questioning. Furthermore, Wiliam, (2014) advocates for a 'no hands up' policy in the classroom as he states that by allowing voluntary participation, students are allowed to not participate. These sources show that getting students to raise their hand to answer questions may not be the most effective for the benefit of all students. This is because it allows students to not participate and become disengaged. Whilst these sources can be considered older in terms of academic literature, the information is still relevant as it can be witnessed in classrooms to this day.

The literature shows that questioning can be an effective form of AfL that teachers can use to assess student comprehension and aid student learning (An and Childs, 2023; Black and Wiliam, 1998; Buchanan Hill, 2016; Harunasari et al., 2023; Mahmud, 2019; McCarthy et al., 2016; Wareing, 2012). Effective questioning can aid students with information retention and with understanding topics (Harunasari et al., 2023; McCarthy et al., 2016; Wareing, 2012).

Additionally, effective questioning can aid students in developing critical thinking skills which is necessary for helping achieve the Four Purposes of the new Welsh curriculum (Buchanan Hill, 2016; Harunasari et al., 2023; Welsh Government, 2020). However, to enjoy these benefits questioning needs to be effective. Teachers need to allow sufficient wait time after posing questions to allow students to properly formulate a response (An and Childs, 2023; Mahmud, 2019; Rowe, 1986; Wareing, 2012; Wasik and Hindman, 2018). Furthermore, appropriate questioning strategies need to be employed as to encourage student participation as to afford all students to opportunity to engage with their learning (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014).

Case study

As mentioned, the case study of this paper takes place in a year 4 class in a primary school in Swansea. The critical incident in question relates to the whole class and is about the teacher's use of questioning in the classroom. In the video, the teacher poses questions to the students who then raise their hands to answer the question (Digital Services, 2023). The teacher then picks one of the students with their hands raised to answer the question (Digital Services, 2023). Dylan Wiliam calls this "the traditional way" (Wiliam, 2014, p. 16). As mentioned in the literature this method of questioning may not be the most effective (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014). This is because this form of questioning allows voluntary participation which allows students to become disengaged (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014). This can be seen in the video. In the video, when the teachers poses a question, it is, generally, the same students putting their hand up to answer (Digital Services, 2023). Furthermore, there were some students who never put their hand up to answer (Digital Services, 2023). This is in keeping with the previous literature. This shows that this style of questioning allows voluntary participation which allows some students to not engage in their learning (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014). This can create a gap between student ability (Wiliam, 2014). As discovered in the literature, this could be because those students are not confident in their ability (Wareing, 2012). Therefore, it would be better to adopt an AfL strategy that would better encourage student participation and engagement to help students develop their ability without fear of embarrassment.

It was found from the video that the teacher mainly used open-ended questions (Digital Services, 2023). Open-ended questions allow teachers to have a more comprehensive understanding of student knowledge and understanding of a topic compared to closed questions (Wareing, 2012).

This means that the teacher in the case study is using AfL effectively as to better understand where his students are in their learning. This will help the teacher to better support his students. Furthermore, using open-ended questions is beneficial in helping students develop higher-order thinking skills. This is because using open-ended questions helps students to develop their critical thinking skills (Buchanan Hill, 2016; Harunasari et al., 2023). This means that the teacher is engaging in good questioning methods as to obtain higher order thinking skills from his students. Additionally, as the teacher was asking open-ended questions, he allowed sufficient time for the students to think and deliver their answers (Digital Services, 2023). This is beneficial as it was found that students need sufficient time to answer (An and Childs, 2023; Mahmud, 2019; Wareing, 2012). This is because waiting can lead to an increase of the length and accuracy of student answers (An and Childs, 2023; Mahmud, 2019). This can help increase student achievement and attainment (An and Childs, 2023; Mahmud, 2019). Therefore, by allowing students to properly think about and formulate a response to the questions, the teacher in the case study is engaging in good questioning methods.

From the video it can be implied that the teacher is engaging in good questioning methods and by extension, effective AfL practices (Digital Services, 2023). The teacher used open-ended questions and gave the students ample time to answer which allows them to develop higher order thinking skills such as critical thinking whilst giving a more accurate answer (An and Childs, 2023; Buchanan Hill, 2016; Digital Services, 2023; Harunasari et al., 2023; Mahmud, 2019). This additionally, helps students to develop skills pertinent to obtaining the Four Purposes of the new Welsh Curriculum (Welsh Government, 2020). Despite this, the teacher used the 'traditional method' of questioning by getting students to raise their hand to answer the questions he posed (Digital Services, 2023; Wiliam, 2014). This style of questioning can be deemed as less effective as it allows for voluntary participation meaning not all students will be engaged with their learning (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014). This could be because those students who do not engage are not as confident in their ability (Wareing, 2012). This could have the knock-on effect that the teacher then bases their understanding and support of student comprehension on those students who do answer meaning that it may not be accurate to the whole class needs. Therefore, it may be more beneficial to adopt different questioning techniques to better engage students and gain a better understanding of student comprehension so that better support can be given.

Teaching and Learning Methods

This section will look at appropriate teaching and learning methods one may choose to adopt in light of the critical incident discussed in the previous section. As stated previously, the hands up method for questioning may not be the most effective form of questioning (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014). This was inferred in the video of the class as there were some students who were not engaging with the questioning (Digital Services, 2023). Thus, this section will look at other methods one could use for questioning instead that may elicit more student participation.

One alternative method for questioning is exit tickets. Exit tickets are a short, responsive task where the student writes an answer to a question or prompt given by the teacher (Fowler, Windschitl and Richards, 2019). This can be done on a piece of paper or can be completed online using programmes such as Google forms (Fowler, Windschitl and Richards, 2019). This would help to make this task more accessible for students who have difficulties writing. This type of questioning method can be done during a lesson but is more commonly used at the end of a lesson when students leave; hence the name exit tickets (Fowler, Windschitl and Richards, 2019). This means that this form of questioning would be best used in tandem with a questioning strategy that is more appropriate during a lesson. Fowler, Windschitl and Richards, (2019) note that this activity should take around five minutes to complete and say the question should be specific. This leaves no room for ambiguity meaning students know exactly what is expected of them. Exit can be conducted anonymously (Fowler, Windschitl and Richards, 2019; Wiliam, 2014). This would help students who are shy, have communication issues or may not be confident in their ability to participate with questioning. This could help to increase student participation. This in turn would help the teacher have a better understanding of where the whole class is with their understanding of a topic (Wiliam, 2014). Therefore, best practices can be utilised in accordance with what the class needs to improve on their learning.

Another questioning strategy that can be used is think-pair-share (TPS). TPS is an active learning strategy comprised of three steps (Kaddoura, 2013; Prah, 2017). The first step gets students to individually think on a question posed by the teacher (Kaddoura, 2013). Step two gets students to pair up and discuss their thinking and identify the most appropriate answers (Kaddoura, 2013). Lastly, step three sees the teacher asking the pairs to share their ideas (Kaddoura, 2013). TPS helps students to develop their critical thinking skills using discussion (Kaddoura, 2013; Prah, 2017). This is beneficial for two reasons. Firstly, critical thinking is a necessity in life and in achieving the Four Purposes of the new Welsh curriculum (Welsh Government, 2020). Secondly, discussion undertaken during a TPS activity can help develop and increase students'

communication and problem-solving skills (Prahl, 2017). Furthermore, TPS can be linked to a more social constructivist theory of teaching and learning as it encourages social interaction.

Lastly, instead of getting students to raise their hand to answer a question, whiteboards can be used instead. This strategy would see all students answer a question on their whiteboards and raise them for the teacher to see (Wiliam, 2014). This is a method Dylan Wiliam, (2014) advocates for as it is low-tech and can elicit a response from all students. With this method, Wiliam, (2014) mentions how multiple-choice questions work best so that the teacher can quickly scan all the whiteboards to gauge student comprehension of the topic. This means that closed questions work best for this method and can be effective in mathematics to show the answer to a sum. Due to closed questions being more effective with this method, this form of questioning could be used in tandem with TPS as that form of questioning typically utilises more open-ended questions (Kaddoura, 2013; Prahl, 2017; Wiliam, 2014). This would give one a more whole understanding of student comprehension of a topic. On top of this, using a whiteboard and getting all students to answer may help with student participation. This is because those who do not raise their whiteboard can easily be identified. Furthermore, as this method does not require students to audibly communicate in front of the class, it may be more suitable for students who are shy or less confident in their ability.

Discussion

This section will discuss the implications of the critical incident on one's own pedagogical choices. The critical incident related to the use of AfL in the classroom. Using AfL methods is a pedagogical principle unto itself (Welsh Government, 2023). This means that AfL is a key part of teaching and learning and must be used. Therefore, AfL needs to be effective in order to better develop teaching and learning. It was found in the critical incident that the use of hands up questioning invited voluntary participation meaning not all students were engaging with the teaching and learning (Digital Services, 2023; Etemadzadeh, Seifi and Far, 2013; Wiliam, 2014). As was seen, it was typically the same students raising that hand to answer the questions posed by the teacher, with some never putting their hand up at all (Digital Services, 2023). This is a problem identified by previous literature as voluntary participation forgoes students' opportunity to engage in the questioning and indeed their own learning (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014). This can create a gap between student ability (Wiliam, 2014). Therefore, it can be considered good practice to utilise questioning methods that would better invite student participation and help reduce the ability gap. Furthermore, increasing student

participation would help students take more responsibility for their learning; a key pedagogical principle (Welsh Government, 2023).

By using a range of AfL questioning methods such as the ones outlined in the previous section one would be practicing the pedagogical principle of using a variety of methods that promote skills such as problem solving and critical thinking (Fowler, Windschitl and Richards, 2019; Pahl, 2017; Welsh Government, 2023; Wiliam, 2014). Specifically, using TPS can help encourage talking amongst students (Kaddoura, 2013; Pahl, 2017). This could not only help with the development of critical thinking skills, but also can help social development and create more positive relationships within the classroom, another pedagogical principle outlined by the Welsh Government (Kaddoura, 2013; Pahl, 2017; Welsh Government, 2023). These relationships are a key aspect of social constructivism, the learning theory one subscribes to (Amineh and Asl, 2015; Vygotsky, 1978).

What one has learnt from the critical incident and from the surrounding literature is that it would be more beneficial to adopt a range of AfL techniques. Multiple AfL techniques can be utilised together to create a whole picture on where the class is in their learning, This would help one to decide on the best strategies to help support learning based off where the class is and what they need to progress. Moreover, using multiple AfL methods can help to achieve multiple pedagogical principles of effective teaching as mentioned by the Welsh Government, (2023). This would help ensure students receive quality teaching and learning which will help with their academic success.

Conclusion

To conclude, the critical incident and this paper have helped one with their understanding of good AfL practices. They have made one think about the range of questioning methods one can use in the classroom to elicit responses and participation. This will help one with their teaching as it will allow for a more comprehensive view on where the students are with their understanding of a topic and what, if any, support is needed to help students with their learning and development. What one has found is that the traditional hands up method may not be the most effective form of questioning in the classroom (Etemadzadeh, Seifi and Far, 2013; Wareing, 2012; Wiliam, 2014). This is due to this method allowing students to become disengaged meaning that students forgo their opportunity to engage in their learning; this can create attainment gaps (Wiliam, 2014). Other methods of questioning such as exit tickets and TPS can help to encourage participation meaning that teachers would gain a better understanding of where students are at in their learning

and if support needs to be given to extend their comprehension (Fowler, Windschitl and Richards, 2019; Kaddoura, 2013; Prah, 2017; Wiliam, 2014). Furthermore, engaging in multiple forms of AfL will help to achieve the pedagogical principles laid out by the Welsh Government ensuring effective teaching (Welsh Government, 2023) This is beneficial for students to help support their learning and ensure academic success.

It is recommended that more research on the effectiveness of specific AfL strategies be conducted to find out the most appropriate forms to use in the classroom. This will help teachers to find out which methods encourage the most participation to help teachers find out student comprehension on topics and reduce student attainment gap.

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