**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.**

## Introduction

In this essay I will focus on an observed critical incident concerning the use of cold calling in the classroom. I will use literature to evaluate the positive and negative effects that cold calling has on students, and whether cold calling has positive or negative effects on students' wellbeing. I will also discuss whether cold calling is an effective way to implement retrieval practice in the classroom setting, allowing children to fully immerse in the learning experience and storing the information they learn in their long-term memory. I will discuss whether providing students with prior knowledge before using cold calling is essential, and whether this leads to more active participation from students.

By using critical incidents, it allows teachers to critically reflect on what has happened during the lesson, and consider what can be done differently, or kept the same in order to improve the way we teach. At the end of my essay, I will discuss the impact the critical incident had on my own professional practice and evaluate what I will do going forward to ensure my students are provided with the best learning experience possible. I will also use the literature from my literature review in order to weigh up whether cold calling is a good strategy to adopt within my classroom.

## The role of critical reflection

The role of critical reflection in teaching asks professionals to reflect and look at the practices and ideas they adopt and question whether they are the best and correct approaches to improve the learning of children. The work of John Dewey had a major impact on reflective practice. John Dewey in his book "How We Think" published in 1933 explores the ideas of critical reflection in teaching. Dewey (1933) argues that a critical individual holds the attributes of open-mindedness, responsibility, curiosity, and whole-heartedness. Dewey's perspective is that routine thinking is dangerous for educators and causes them to become slaves to their own thoughts and practices resulting in idleness and non-progression. Therefore, for Dewey (1933) reflection is a form of freedom from routine behaviour. Without

reflecting on the way that we teach, we will never succeed and grow alongside our learners. We are merely stagnant and close-minded, allowing no room for development and intellectual growth. Reflection supresses our impulses and ‘enables us to direct our activities with foresight and to plan according to ends-in-view or purposes of which we are aware, to act in deliberate and intentional fashion, to know what we are about when we act.’ (p. 17)

Donald Schön (1983) wrote a book titled "The Reflective Practitioner: How Professionals Think in Action" based on the work of Dewey (1933). Reflection-in-action and reflection-on-action were the two forms of reflection that Schön considered when examining professional activity. Reflection-in-action, often known as "thinking on our feet," is a strategy professionals use to change the situation or task they are working on as it develops. Schön suggests that by "reflecting-in-action," professionals do "experiments" that aid in changing the environment as well as their comprehension of unanticipated situations. It frequently refers to a feeling of surprise. Reflection-on-action is the process of reflecting after an experience has occurred. Professionals "reflect-on-action" by taking into account what happened in that particular situation, the reasons behind their responses, whether they could have handled it better, etc. Professionals are said to be engaging in reflection-on-action when they examine their experiences and potential improvements to their work.

David Tripp used the idea of critical reflection to create his critical incident methodology. “… a critical incident is an interpretation of the significance of an event. To take something as a critical incident is a value judgement we make, and the basis of that judgement is a significance we attach to the meaning of the incident” (Tripp, 1993). Incidents appear to be ‘typical’ rather than ‘critical’ at first sight but are rendered critical through analysis. It can assist in understanding procedures and processes. It questions the assumptions we have about how a classroom should be run. Not all critical incidents are bad. Critical incidents help us concentrate on our critical reflection; just as when something goes wrong, we can consider what went right in order to improve our teaching. Up until we start to analyse them, the critical incidents might be thought of as very routine. Between lessons or even outside the classroom, critical incidents might occur.

## Observation, School and Class context

The BERA (2018) Guidelines state that “the confidential and anonymous treatment of participants’ data is considered the norm for the conduct of research’. To adhere to these guidelines, throughout this essay the school, staff and pupils will remain anonymous.

The observation took place in a mixed-gender bilingual Secondary School, offering the curriculum through the medium of Welsh and English with 6.4% of pupils speaking Welsh as a first language. As the latest ESTYN inspection for School X was outdated (data recorded from 2014), School X provided a document containing the current data which will be added to my appendices (appendix 2), ensuring to adhere to the BERA guidelines. The school is based in Carmarthen under the local authority of Carmarthenshire County Council (CCC). There are 1331 students on roll at this school between the ages of 11-18. This includes sixth-form students who are completing their AS and A Levels. 50.34% of pupils are male and 49.66% are female. 22.16% of pupils receive Free School Meals and 9.77% of pupils speak English as an addition language. The school has a dedicated inclusion centre for pupils with special educational needs, which allows pupils to filter in and out of mainstream classes if they so wish. 31.71% of pupils have SEN needs and 24.94% of pupils hold SEN status.

The critical incident I will discuss throughout was observed during a Year 7 mixed-ability French lesson. The observation took place during the last lesson of the school day. Some children were generally tired and ready to finish the day, but most individuals were engaged and ready to learn. The classroom contained a lot of structure, the children were sat in seating plans and knew that they had to come into the class, sit down, get out their exercise books and begin the starter that was already on the board for them as they entered.

## Critical incident linked to Donaldson’s Four Purposes

Using Tripp’s critical incident methodology, I undertook a two-day observation at a local school in order to practice the method of reflective practice. The critical incident

that I have decided to focus on occurred in a Year 7 French lesson during the last lesson of the school day.

The teacher of this lesson took a ‘no hands up’ approach and used cold calling instead. Cold calling is the method where the teacher calls on an individual or group to answer a question, rather than asking for volunteers. This approach gives every student the opportunity to answer questions and does not limit the participation of those who generally do not raise their hand to give an answer. In ‘Successful Futures’ written by Professor Graham Donaldson; Donaldson created The Four purposes which are embedded into the new curriculum for Wales. The Four Purposes proposes that children and young people should be developed as; Ambitious, capable learners, ready to learn throughout their lives; Enterprising, creative contributors, ready to play a full part in life and work; Ethical, informed citizens of Wales and the world; and healthy, confident individuals, ready to lead fulfilling lives as valued members of society (p. 31). This critical incident strongly links to the first of Donaldson’s Four Purposes, which is ‘ambitious, capable learners, ready to learn throughout their lives’. Within this purpose it is important for teachers to ensure that their students are ‘questioning and problem solving’ and can explain the ideas and concepts they are learning about. The cold calling approach enables students to actively participate within lessons, therefore building confidence and allowing them to communicate their own ideas amongst their classmates.

The teacher set the students a task where they had to look up certain French words in a dictionary and translate them into English in their exercise books. The students had no prior knowledge of the words that were given to them. There is a clear link here to the second of the purposes, which is ‘enterprising, creative contributors’ as it allows students to think creatively and identify and grasp opportunities. However, I thought here that maybe some prior knowledge to the topic would mean students would be more confident in giving answers and would allow the teacher to pose questions to the pupils, creating challenge. By cold calling it allows students to take measured risks as they are not always going to answer correctly. Some children worked quicker than others and completely understood the task in hand, whereas some children struggled when using the dictionary as they had limited experience in doing so. Once the teacher drew the task to a close, she began cold calling

individuals in the class to share their findings. This allowed me to think critically about whether cold calling was the most effective approach for active participation when teaching, and what the benefits were for using cold calling to gain active participation from the class. It also made me think whether cold calling would implement retrieval practice within the classroom and if prior knowledge is essential when using cold calling, ensuring that the information given would stay in the children's long-term memory as opposed to their short-term memory.

At the end of the lesson, I asked the teacher why she used the approach of cold calling rather than asking students to raise their hands if they knew the answer. She said that with the 'no hands up' approach, children are more likely to focus and stay on task as there is always the possibility that they will be called to answer.

**Literature Review**

Active participation from pupils is what every teacher strives for in their professional practice. However, it is not always straightforward. Dallimore et al. (2019) states that "classroom discussion is widely used and highly valued for actively engaging student in their own learning" (p.14). According to Birkland (2021), "increasing engagement and participation in class discussions is a challenge faced by many educators today." Birkland (2021) connotes that "although engagement can be measured in a variety of ways, participation in class discussions is perhaps the easiest response to quantify". Although this may be true, it must be taken into consideration who is participating and who is not. There must be the same amount of participation from every individual in the classroom if that is how understanding is going to be assessed. Dylan Wiliam (2014) wrote an article concerning the allowance of voluntary participation in the classroom. He states that if student participation is optional, it leads to the more able, 'eager' pupils benefiting, as they always have their hands raised, and places the currently underachieving pupils in a lesser position as they the previous pupil gave the correct answer and the teacher has now moved on, meaning the teacher has been misled into thinking that all pupils understand what has been asked. In order to manage who is answering questions and participating in classroom discussions, the act of cold calling can be used. Cold calling is an instructional strategy used to call on students to answer questions in front of peers when they have not volunteered (Dallimore et al. 2019). Cold calling allows for all

pupils to equally participate in class discussions resulting in equal opportunities for questioning and high-order thinking (Li and Pinto-Powell, 2017).

From the Dallimore et al. (2013) study of the relationship between cold calling and voluntary participation in the classroom for undergraduate level students, it was concluded that cold calling builds the confidence of pupils by forcing them to answer the question posed by the teacher. It was also concluded that the pupils who were exposed to cold calling reported that they felt more comfortable participating during lessons. This strongly links to the constructivist view that pupils learn by doing, and by asking children challenging questions they make their own sense of what they are learning in order to apply it to their real lives. Given that every participant in the most recent Dallimore et al. (2013) study was registered for the same course, the results have serious limitations. They did incorporate multiple aspects of that course in their analysis, nonetheless. The researchers' focus on survey data and inability to evaluate cross agreement also prevented them from generalising their findings. Their inability to influence comparisons between the voluntary and cold-calling circumstances may be their study's biggest flaw. There is little research comparing cold calling to volunteering, and the few that can be found do not however give treatment effects a critical investigation. Previous research hasn't attempted to control the environment for cold calling versus volunteering or to provide consistent, accurate evaluation of class participation. Finally, none of the earlier studies accurately analysed the amount of engagement and the distribution of students' participation between the two arrangements. Additionally, the impact of voluntary vs cold-called remarks on exam performance has not been studied.

Being called upon unknowingly can cause a lot of anxiety for students, especially within large groups. Taking the approach of the Humanist school, Carstens (2015) wrote about the negative effects that cold calling has on students. Through a study of evaluating whether cold calling boosts participation it was deduced that the use of cold calling did not boost participation rates. Instead, Carstens (2015) found that participants were feeling more anxious and uneasy. Being given the choice of participation maintained higher motivation. The emotional needs of learners is far more important here than academic achievement. Why would educators continue to disregard their students' mental health when both voluntary and involuntary

responses result in similar student performances? Birkland (2021) raises the point that cold calling can be misconceived to be used for the purpose of shaming a student who is off task which is not always the case. According to Birkland (2021) “active learning styles such as cold-calling can increase or decrease anxiety, depending on how the strategies are implemented”. Referring to the study conducted by Cooper et al (2018) in which they interviewed students who are part of a large cohort about their take on being called upon in class. Birkland noted that the conclusions from these interviews were that the students “feared negative evaluation” from their teacher and peers as the pinnacle cause of anxiety around cold calling, and the way these anxieties could be reduced is by the teacher allowing thinking time and group work prior to cold calling (Birkland, 2021). As a teacher, silence within a classroom can be deafening, every teacher wants students to feel comfortable enough in their classroom to be able to talk and share their views. Creating this safe environment for pupils is essential for teaches, and here lies the limitation of cold calling. Forcing children into doing something is not always the best way, it can cause children to become introverted and full of anxiety before coming to class. If a pupil raises their hand in class, they are actively participating and engaging in the lesson, so why do they need to be called upon to show this?

Kollat (2018) set a goal to improve engagement within her class and encourage students to review material given between lectures and to prepare set readings before lessons. Kollat set question and answer sections on the course website at least a day prior to each lesson, giving students to prepare answers in case they are called upon to answer. For Kollat the results were ‘undeniable’ (Kollat, 2018). Kollat used positive reinforcement alongside the method of cold calling. For any correct answers given within the question-and-answer sessions, Kollat awarded her students with ‘points’ for the course. Without the use of positive reinforcement, she found that pupils failed to prepare their answers beforehand. By providing students with the opportunity to prepare answers, and therefore implementing retrieval practice, prior to using the cold calling technique Kollat saw a rise in the average examination scores and concluded that “cold calling is a technique that can enhance student learning while also creating a more dynamic classroom environment for students and faculty alike” (Kollat, 2018). Allowing pupils to gain prior knowledge before cold calling is implemented could be the most efficient way of using the

technique. It can ease worries and anxiety about getting the question wrong in front of peers, resulting in embarrassment. However, it is not substantial to suggest that every student has the opportunity to prepare for class in the same regard. Home life can have a huge effect on students' time and ability to prepare for class, and a lot of the time they rely solely on the practitioner's lectures to educate them enough to get through the course.

Sumeracki and Castillo (2022) wrote about the significance of retrieval practice in the classroom environment. Retrieval practice is a strategy that in which calling information to mind subsequently enhances and boosts learning (Pooja K. Agarwal, 2019). A study was carried out to determine whether cold calling and retrieval practice combined would improve students' long-term retention of the information being taught (Sumeracki and Castillo, 2022). The basis of the study was to determine whether it was simply enough to bring information to mind by using covert retrieval practice or if overt retrieval practice needed to be enforced to enhance learning. In an experiment, Sumeracki and Castillo asked questions to students to 'bring information to mind' implementing covert retrieval practice, and then cold called one student to voice their answer applying the overt retrieval practice. They analysed results taken from two classrooms, in one only covert retrieval was used and in the other both covert and overt retrieval were used. They found no differences in results but concluded that if timing is an issue, cold calling could be a quicker way of implementing retrieval practice and therefore improving long-term retention of knowledge. The selection of pupils who were cold called upon was randomised, assuring that there was no bias. The possible limitations here are whether everyone is benefiting from the cold calling method. If there are no differences between covert and overt retrieval practice, is there any need to pressurise the students into giving answers aloud in front of their peers. Although cold calling is a quicker way to check for understanding, if the information is present in students mind by questioning appropriately, then retrieval practice has occurred. It is difficult to see when it is appropriate to use cold calling, if the point of cold calling is to gain participation from the quieter pupils, then the randomised cold calling is useless. It would also be unfair to call continuously on the pupils who are not comfortable enough to participate, creating a hostile and uncomfortable learning environment.

**Reflection, Evaluation, and Next Steps**

After reviewing many different types of literature regarding the use of cold calling in the classroom, it has given me great insight into how I will choose to practice when I am in the classroom. Referring back to Birkland (2021), and the point he made about how active participation strategies are implemented can either increase or decrease anxiety, really made me realise that the environment you create for pupils is at the highest of importance throughout your professional practice. Carstans (2015) study showed that cold calling did not boost active participation, and in fact, it did the complete opposite. I want my classroom to be a safe space for pupils, who can ask questions and give answers whenever they need to. I sometimes find cold calling to be dismissive of the pupils who are willing to participate and give answers. Children are proud when they receive praise for giving correct answers, and that opportunity should not be taken away from them. Yes, of course, cold calling provides opportunities for those who are not confident enough to speak out, but there are reasons as to why they do not want to answer a question. It cannot be assumed that pupils who do not participate in lessons are any worse off than those who do. As a future teacher of Religion, Values and Ethics (RVE), this safe environment needs to be enforced instantly. RVE holds a lot of sensitive topics and discussions, and I believe that cold calling will not be something I carry forward into my professional practice. Being considerate and respectful of people's backgrounds is at the forefront of my mind, and if a pupil does not want to answer a question, I will not force them into doing so. If I am worried about a child's levels of participation in the class, I will ask to speak to them for a few minutes at the end of the lesson just to reassure them that if they are struggling then I am here if they need any extra help. There are other ways of implementing active participation into lessons, and calling on individual students, to me, is not the most effective way. My new and informed perspective is that group work would work greatly in my classroom, it would allow students to have the comfort blanket of their peers until they are comfortable enough to speak out for themselves. This is a suitable practice to take forward as it is supported by the theory of Birkland (2021) when he found that by allowing children to work in groups before cold calling took place, it reduced anxieties around being cold called. By allowing children to build relationships with their peers through group tasks they can build each other's confidence by discussing ideas and opinions. Cold calling is a

quick way of getting feedback, but as long as the children have understood the task in hand, the majority of pupils will be able to give an answer. In regard to checking the understanding and building the confidence of younger pupils, using strategies such as mini whiteboards would be a great alternative to cold calling. It would give me the chance to quickly evaluate the knowledge of the entire class, give praise to those who have answered correctly, and then have a quiet conversation with those who have had it wrong to avoid public embarrassment in front of classmates. From the Dallimore et al. (2013) study, there was very limited evidence that cold calling increased voluntary participation, and from this I think that it is applying unnecessary pressure on students to answer aloud. If there are no hands up after a question is posed, maybe then it shows that the way you are asking the questions needs to be changed.

## Conclusion

To conclude, in this essay I have outlined a critical incident observed by myself during an observation period at School X. I observed the critical incident of cold calling in the classroom and used the reflective model proposed by Tripp to evaluate how I will apply what I have learned into my own professional practice. By adopting this method, it has allowed me to see the importance of being a reflective practitioner, and the benefits it holds for myself and my students. By following Tripp's reflection model, it will allow me to achieve the five standards outlined in Wales' new curriculum, which are Pedagogy, Collaboration, Innovation, Professional Learning and Leadership (Welsh Government, 2017). It strongly links to the new professional learning aspect of the Professional Standards for Teaching and Learning in Wales, as by reflecting on what has occurred in the classroom, the teacher is extending their knowledge and skills to ensure their pedagogy is progressively developing.

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