



How can we improve classroom discussions through the use of diamond ranking?

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	Targed/Target	Yr hyn yr wyf wedi'i wneud yn yr aseiniad hwn. What I have done in this assignment.
Targed/Target 1	When making future recommendations, try to support it with literature.	I have tried to find literature that supports my view and findings.

Introduction

The aim of this research is to consider how we can improve classroom discussions through the use of diamond ranking. It has been chosen due to its intrinsic link to a number of the pedagogical principles set out by Donaldson (2015) in Wales' education reform. The particular principles diamond ranking addresses is that good teaching and learning encourages collaboration and also means employing a blend of approaches including those that promote problem solving, creative and critical thinking, thus encouraging learners to take responsibility for their own learning. It is also a strategy that can be readily adapted to a variety of topics and situations, whilst having the added benefit of being suitable for a range of ages and abilities.

The intention of this study is to establish whether the use of diamond ranking improves children's ability to focus on a particular topic and debate the order of importance they feel is appropriate. The desire is to see children presenting their reasons clearly and rationally whilst acknowledging differences of opinions. By demonstrating these skills, we can ascertain if diamond ranking supports children in the ability to accommodate the perspective of another, negotiate and ultimately seek a group consensus.

The research was carried out in a primary school located in Swansea, Wales. The class was a key stage 2 mixed ability class consisting of children ranging from 8 – 11 years of age. The school had recently begun to consider critical thinking skills within their professional development discussions, making the question 'How can we improve classroom discussions through the use of diamond ranking?' beneficial for pupils' learning and staff alike.

Literature Review

In order for individuals to successfully meet the four purposes set out in the Curriculum for Wales (Welsh Government, 2020) a number of wider skills have been recognised as being integral to its success and indeed necessary for life in work and the modern world (Donaldson, 2015). One such skill identified is critical thinking and the ability to problem solve in a variety of situations. It has long been believed that those with access to information and, the ability to process and critically evaluate it will be most successful in life (Huitt, 1995; Thomas and Smoot, 1994, cited in Huitt, 1998a; and Toffler, 1990, cited in Huitt, 1999).

What then is critical thinking? Many definitions feature similar properties that stem from philosopher John Dewey (1933). Mertes (1991) defines critical thinking as 'a conscious and deliberate process which is used to interpret, or evaluate information and experiences with a set of reflective attitudes and abilities that guide thoughtful beliefs and actions.' If we simply

apply these attributes to an authentic context such as politics, we can agree with Vincent-Lancrin et al. (2019) that we need to ensure our young people are equipped to sufficiently weigh up arguments presented by others and the media in order to make a well-informed and grounded decision.

Kuhn's (1991, cited in Van Gelder, 2005) research exposed that the majority of people, even when prompted, could not demonstrate basic reasoning and argumentative skills, which is un-surprising given that humans are not naturally critical (Van Gelder, 2005). Thinking critically is a complex activity famously promoted in Blooms Taxonomy (1956) as a higher order thinking skill. Due to its complexity many believe it is a skill that cannot be taught unless the foundation of lower order skills are built and strengthened first (Van Gelder, 2005).

Others dispute whether critical thinking is a generalised skill (Ennis, 1989 cited in Dumitru, 2013) or conversely a skill learnt in relation to a specific topic or subject (Barshay, 2019 and Ennis, 1989, cited in Dumitru, 2013). Willingham (2007) strongly agrees with the latter frankly declaring 'critical thinking is not a skill.' He illustrates his point with this analogy;

'If you remind a student to 'look at an issue from multiple perspectives' often enough, he will learn that he ought to do so, but if he doesn't know much about an issue, he can't think about it from multiple perspectives.'

(Willingham, 2007, pp8-9)

His point, although valid when dealing with complex themes, brings into question the concept of us being lifelong learners. If we are encouraged to continually develop and learn new skills, surely advancing our thought process – thinking – can also be categorised as a skill. Moreover, the ability to think is essentially what education is all about (Cowley, 2005) and therefore it can strive to advance critical thinking skills also.

Critical thinking requires us to consciously listen to messages and focus on what is and what is not being said (Russ, 2011), and is proven to be established within the classroom through effective group work (Welsh Assembly Government, 2010a). Designing activities around group work prepares students for life in work, with research showing an ability to work in groups and display teamwork skills is desirable to employers (Blowers, 2000, cited in Burke, 2011). Teachers responsibility is to guide and facilitate 'collaborative learning environments' necessary to achieve critical thinking outcomes and engage students in the learning process (Burke, 2011 and Johnson, 2013). Collaborative learning is a proven process that often gets the best results (Education Endowment Foundation [EEF], 2018)

and is set out as one of the twelve pedagogical principles that facilitate good teaching and learning (Welsh Government, 2020).

Many agree those who actively participate in classroom discussions often learn more than students who don't (Weaver, 2005, and Nunn, 1996, cited in Weimer, 2002). Brookfield and Preskill (1999) substantiate this claim in their view that discussion 'nurtures growth' by exposing others to new viewpoints. In turn they believe this cultivates a 'collective wisdom' which would be impossible for one to achieve alone. The drawbacks to discussion cannot however be overlooked. Deering and Shaw (1997, cited in Loftin, Davis and Hartin, 2010) stress how just one or two negative participants within discussion can derail the rest of the group.

Discussion activities be then be best contained to dealing with safe issues as a means of reducing negative participation. Easton (2018) conversely believes that discussion should not be constrained, claiming that within a safe classroom environment 'there is freedom to play with ideas, with little serious consequence' and children should therefore be encouraged to consider more profound issues. On this basis and considering the increase in extreme issues in today's society it is essential that schools endeavour to promote the values of respect and tolerance within the classroom. Children need to be ready to 'leave school fully prepared for life in modern Britain' (Nash 2014, cited in Easton, 2018)

Gage and Berliner (2002, cited in Hajhosseini et al, 2016) believe that teaching through discussion furthers the ability to; think critically, support opinions by reasoning, listen, evaluate and respect others views. One pedagogical approach that promotes these abilities of problem solving and critical thinking is diamond ranking. It is recognised for its usefulness in facilitating talk and commended for the strengths ordering issues affords. Individuals are 'required to make explicit the over-arching relationships by which they organise knowledge, thus making their understandings available for scrutiny and comparison' (Clark, 2012).

Although diamond ranking is an established critical thinking technique Niemi, Kumpulainen and Lipponen (2015) claim little research is available on the application of it in a classroom setting. Due to this it is an area which could benefit from further research especially considering the growing movement around assessment for learning, which diamond ranking is recognised as being a part of (Welsh Assembly Government, 2010b). Through research and embedding of strategies like diamond ranking we can promote meta-cognition throughout a child's learning. It is agreed that this ultimately helps children transfer their skills and knowledge to new situations without specific prompts (National Research Council, 1999).

Methodology

Fernandes and Yoshida (2004) advocate the most effective way to improve education is to 'get teachers together to study the processes of teaching and learning in classrooms, and then devise ways to improve them'. The aim of this research is to truly inform teaching practice and improve the quality of pupils learning and so the methodology of a lesson study was chosen.

Tsui and Law (2007) describe a lesson study as a 'systematic investigation of classroom pedagogy conducted collectively by a group of teachers rather than by individuals.' The essence of teacher partnerships is at the heart of its design, resonating with the intention of this research to see collaborative behaviours within discussions. The lesson study format also allows improvements to be implemented on facts from experience within a live classroom setting (Dudley, 2014).

This methodology a model of action research that incorporates a number of aspects contained within the prevalent matter of assessment for learning. To explore this link further it is useful to note Klenowski's (2009, cited in Kippers, et al. 2018) explanation of assessment for learning as being a practice that 'seeks, reflects upon and responds to information from dialogue, demonstration and observation in ways that enhance ongoing learning'. A well-designed assessment tool is fundamental to any worthwhile lesson study (Groningen and Bennett, 2012) thus the method of teaching and observing the first research lesson dialogue with peers and pupils took place in order to inform necessary changes for the planning and teaching of the second lesson.

Following the joint lesson planning stage, the data collection method was threefold; observation, reflection and focus group. Cohen, Manion and Morrison (2011) outline the unique characteristic that observation affords as a research method, drawing attention to the exclusive opportunity the observer has to capture 'live' data first hand, from naturally occurring situations rather than relying on second-hand accounts. This distinctive feature resonates with Le Compte and Preissle's statement (1993, cited in Cohen, Manion and Morrison, 2011) that 'observational techniques are used extensively to acquire data on real-life settings'.

In order to ensure the presentation of findings remained relative to the lesson which Lewis and Tsuchida (1999) aptly likens to "a swiftly flowing river" an observation schedule document was structured incorporating both qualitative and quantitative data collection methods. The quantitative approach focused on the frequency that children spoke and was indicated in the form of a tally chart. This structure allowed direct comparison (Cohen,

Manion and Morrison, 2003), but could not show the duration or quality of speak. The qualitative aspect sought to meet that shortcoming with the addition of an unstructured data collection section, where the observer could broadly note down any key points or comments made throughout the discussion that drew their attention.

A non-participant approach was followed during the observations as it allowed the observer to remain passive and concentrate on watching, listening and drawing conclusions (Kumar, 2014) from the group's discussion. This approach allowed data to be collected in a more attentive way compared to that of a participant approach, however one must acknowledge this method does have its weaknesses such as the 'Hawthorn Effect'.

Following the observation, a period of reflection founded on Brookfields (1998) Four Lenses for Critical Reflection (Figure 1) occurred between myself and my research partner.

Brookfields (1998) reflection model suggests that by viewing our practice through these four lenses we are alerted to the 'distorted or incomplete aspects of our assumptions that need further investigation'. In turn facilitating our journey of continuous, professional learning and development, necessary to the ever-changing domain of education and intrinsic to the purpose of this research. Hattie (2009) is in agreement that the 'biggest effects on student learning occur when teachers become learners of their own teaching.'

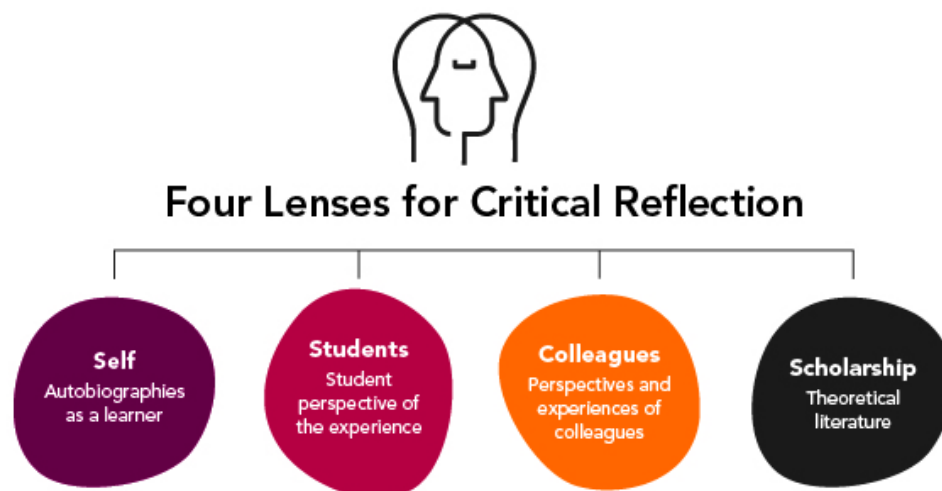


Figure 1. Brookfield's Lenses for Reflection. (Mohawk, 2019)

Through the first lens we consider our practice from our own experience, identifying why we do or don't do things in a certain way and what feelings are evoked during the observation. Secondly, Brookfield (1998) urges us to look at our practice through the eyes of the learner, which emerged through the use of focus groups. Thirdly, we are to welcome the perspectives of our colleague's which is especially fitting to the essence of this study. As we aim to develop collaborative behaviours in children, surely it is only right that we actively

employ the same collaborative skills we are seeking to instil in our pupils. Results from the 2013 Teaching and Learning International Survey (TALIS) also showed that teacher collaboration is proven to increase the use of innovative pedagogies within the classroom (European Commission, 2013 cited in Vangrieken, et al. 2014).

The final of Brookfield's (1998) reflection lenses is far wider reaching than the classroom and refers to the research of literature for insight and clarification on issues. This lens encompasses various external influences such as political, social and economic factors and serves to encourage the teacher that errors don't necessarily fall with them, rather they could just be a predictable consequence to one of the larger factors aforementioned. Referring back to literature within our reflections can also highlight solutions to possible challenges that arose during the lesson study.

Listening to pupil voice has become a recognised worldwide development (Lundy, 2007, cited in Clark, 2012) and likewise in the education system the important role pupils play in a school's development should be celebrated (Rudduck, Chaplain and Wallace, 1996). Such developments are largely attributed to Article 12 of the United Nations Convention on the Rights of the Child (UN General Assembly, 1989) which states how children are entitled to have their voice heard. Gaining the insight of the pupils participating in research is an invaluable means of reflection that is outlined in Brookfield's (1998) second lens and which was integral to this research. For Schools Education Services (2015) advocate that 'involving pupils in the observation process' has the potential to provide additional 'evidence in making judgements about the effectiveness of teaching'. Such evidence was gathered through the use of focus group interviews.

Focus groups are considered to be more natural and informal in their set up which was fitting for this research as it allowed the pupils to interact with one another. Thus, creating an atmosphere in which they feel at ease (O'leary, 2014) whilst enabling their views to be established more so than those of the interviewer (Cohen, Manion and Morrison, 2003).

Ethical Considerations

The research and observation undertaken for this paper have been led and conducted according to the key principles and responsibilities set out in the BERA (2018) guidelines and the UWTSD Research Ethics and Integrity Code of Practice (2020).

Prior to any research commencing ethical approval was received from the UWTSD Ethics Committee to proceed. Parental consent (Appendix 1) and child assent were obtained for all children participating in the observed group and interviews, with the latter being made aware of their right to withdraw at any given stage of the research.

Emphasis is placed on the right of all participants to privacy and confidentiality, therefore all individuals involved in the observation and focus groups will be referred to anonymously. In order to make more direct comparisons each pupil has been given a number which, if applicable, remained constant in both the observation and focus group interviews.

Lesson Study 1

The first lesson study conducted followed on from an introductory lesson on renewable and non-renewable energy sources the children had been taught the previous day. After a brief recap of these sources the children were split into mixed ability groups at random using lollipop sticks with the observed group being made up of seven pupils.

In order to generate discussion each group was given nine energy source cards (Appendix 2) to rank from the most to the least important, using the diamond nine ranking format (Appendix 3). Children were encouraged to discuss their reasons and note them down in preparation to feedback to the whole class.

All groups in this first lesson engaged with the activity and achieved the lesson objective of ordering energy sources from the most to the least importance. It was noted in the first reflection (Appendix 6) how well the children understood the concept of diamond ranking and lead me to deduce the majority had used it as a strategy before. This conclusion was supported from the lens of the student when in answer to the question "Have you sorted statements into a diamond shape like this before?" pupil 3 and 7 answered "yes, in year 3 we did it about Christmas. What was the most important, Jesus, presents or Santa" and "we did it about Easter" respectively (Appendix 7).

When choosing the focus group at random following lesson one some challenges were encountered. A significant number of pupils were elsewhere on a school visit and those who were present had not all been part of the lesson study due to attending intervention groups at the time of research. As a result, the decision was made to concentrate on the majority of members from the initial observation group, so three were chosen at random to form focus group one.

Although on the whole the use of the diamond ranking did engage children and encourage discussion, based on the observation details recorded by my research partner it was only truly the case for those willing to get involved. Pupil 2 failed to communicate at all, whilst pupils 1, 4 and 7 did speak but were described as being 'distracted' (Appendix 5). The tally indicated pupil 4 spoke the most frequently - 9 times in total, yet the notes portray the quality of talk having very little to do with the topic under consideration; 'shouting over others', 'talked about dead animals' and 'made jokes about others comments.'

Further distractions are illustrated in these observed actions:

Pupil 1 - 'Playing with ruler on table and around the neck.'

Pupil 4 – 'Talking over boxes in the centre of the table.'

Pupil 7 - 'Holding ruler in hand' and 'Making noises and playing with pens.'

(Appendix 5)

Self-reflection on these behaviours led to an amendment for the second lesson that sought to eliminate distractions. The improvement consisted of children being given freedom to move their furniture and equipment, so to allow them to engage more freely and comfortably in discussions. Peer-reflection drew attention to the careless attitude of some children who were purposefully distracting and engaging with others illustrating Deering and Shaw's (1997, cited in Loftin, Davis and Hartin, 2010) point on disruptive group members. These actions along with those raised by my research partner lead to the suggestion of discussion rules being established in the second lesson.

Further reflection on the focus group responses and literature led to a final amendment being activated. It was clear from the student's point of view that pupils not fully participating or allowing others to speak hindered the overall outcome and value of the diamond ranking. This is summed up in comments such as; "I didn't enjoy because our group didn't let me speak" and "it felt bad, kind of board because no one let me write anything" made by pupil 7 (Appendix 7). When asked "what improvements do you think we could make if we used diamond ranking again?" pupil 3 responded "stop talking over each other and stop arguing and all take part because some people were sitting out."

Although the implementation of the discussion rules would go some way in preventing such behaviours in lesson two, there was a strong feeling that something more objective was needed. Washington University in St Louie (2017) affirms that students are 'less likely to feel left out or unengaged' when group roles are assigned, and as a result have a 'clear avenue for participation'. Furthermore, Hancock & Rowland (2017) believe that discussion roles can encourage those who have not previously participated to engage in dialogue when given a 'starting point'. Literature therefore lead us down the route of established individual or paired roles within each group for the second lesson.

Lesson Study 2

Prior to any activity commencing in lesson two, the whole class considered problems that arose in their groups during the last session and were asked openly what behaviours could rectify those issues. Respectful and courteous manners were suggested, recorded and

agreed to by all students, in line with Kerr and Nelson's (2010, cited in Alter and Haydon, 2017) recommendation that students are more likely to follow and abide by rules if they have collaboratively developed them and have ownership over them (Welsh Assembly Government, 2010). Discussion standards were however discreetly guided by those labelled by Brookfield and Preskill (1999) under the chapter headed 'Dispositions of Democratic Discussion'.

The concept of discussion role cards was introduced to the children as an additional aid and support in keeping the discussion rules. Each child was assigned a role at random with some roles being in pairs. The roles defined were; Manager, Encourager, Voice Monitor, Scribe and Presenter (Appendix 8).

Given a consensus was reached in the first lesson that non-renewable energy was of least importance in today's modern world, the groups were asked to focus their attention on the five renewable energy sources they had learnt about. The following scenario was put to each group along with a diamond ranking template;

The government has £25million worth of funding to be allocated to renewable energy sources. How much would you give each source and why?

(Appendix 9)

To begin the activity the groups discussed if they would like to move any items or positions. All groups moved the boxes and pen pots from off the table and two groups moved a table to allow them to sit more closely. The children appeared to be more involved and engaged, with discussion flowing more freely despite not all groups reaching a final conclusion in the time available.

The majority of pupils took the roles they were assigned seriously and endeavoured to fulfil them with many also promoting elements of the discussion rules. Unfortunately, prior to the discussion getting well underway it became apparent that pupils 1, 4 and 7 were going to become distracted in the second study also. Pupil 1 was assigned the role of the Manager and repeatedly pointed at members of the group declaring "I'm the manager, you're fired!" provoking pupil 7 to engage in a dispute. As a non-participant observer, it was tough not to intervene and wait to see if pupil 4 would step in as the Voice Monitor. Interestingly despite initially making 'silly actions towards pupil 1' (Appendix 11) they did attempt to assume their role and mediate between the two, commanding "stop arguing and get on with it!"

Documented in the self-reflection was the distinct need for the roles to be explicitly explained and defined to pupils in order to prevent such occurrences again. From discussions with my research partner it was also advised that it in future lessons certain children shouldn't be

grouped together. Although the nature of the research entailed random selection of pupils to form the observation groups it must be acknowledged that in some instances the selected group can cause us to question the face validity of the research. This occurrence once again proves Deering and Shaw's (1997, cited in Loftin, Davis and Hartin, 2010) point on disruptive group members.

This grouping ultimately led to Pupil 1 appearing to withdraw from discussion whilst pupil 6 – the Encourager – shouts at them to “sort it out” before announcing “fine I’ll be Manager”. Assumption of the Manager role was a particularly interesting turn in the observation as this was the same pupil who had gone ‘straight into the leader role’ in the first lesson (Appendix 5). Seeking to maintain the Encourager role pupil 6 asked pupil 4 directly “how much for hydro?” but the designated role soon became juxtaposed to the assumed as pupil 6 silences and commands pupil 3 “just write them down.” (Appendix 12) This example well illustrates one of the disadvantages of having a dominating personality in a group outlined by Beebe and Masterson (2003, cited in Burke, 2011) resulting in members feeling isolated from the decision-making process.

In the students reflection on how they felt about discussing in a group in the second lesson it was encouraging that pupil 8 commented “for me it felt more confident, I could say something more confidently because people let me speak” which is a stark contrast to pupil 7’s repeated statements that they “didn’t let me speak” and “didn’t let me join in” in lesson one. This goes some way in indicating that the use of discussion roles within the diamond ranking activity did have a positive effect however, a number of responses from the focus group raised the issue of arguments still hindering contributions (Appendix 12).

Future improvements could consist of continual reminders of the discussion rules along with a deeper understanding of the question regarding government funding. In hindsight it was probably a little presumptuous to expect all members of a mixed ability class to fully grasp the concept of £25million pounds being divided up accordingly in the short time available. Recognition of this provides the opportunity to re-visit the concept of government funding and the possible arguments made for and against the allocation of large sums of money. As Bailey and Bridges (2017) rightly puts it – just because all children may not have been able to understand and complete the task in this lesson study, it is not to say they won’t be able to in more favourable or appropriate circumstances in the future.

Discussion of Findings

The quantitative data gleaned from the tally method in the observation schedule shown in figure 2 plainly demonstrates the increase in involvement from all members of the group. At

first one may deduce that it was purely the discussion roles that impacted performance, thus detracting from the use of the diamond ranking. However, I would suggest that the marked increase could also be a result of the children being more familiar with diamond ranking and drawing on their previous knowledge of discussion. A greater interest in the discussion question of funding could also be a factor, as dealing with authentic issues engages pupils and creates a sense of purpose to the learning. (Claxton, 2007, Dunleavy and Milton 2009 and Williams, Friesen, and Milton, 2009, cited in Taylor and Parsons, 2011).

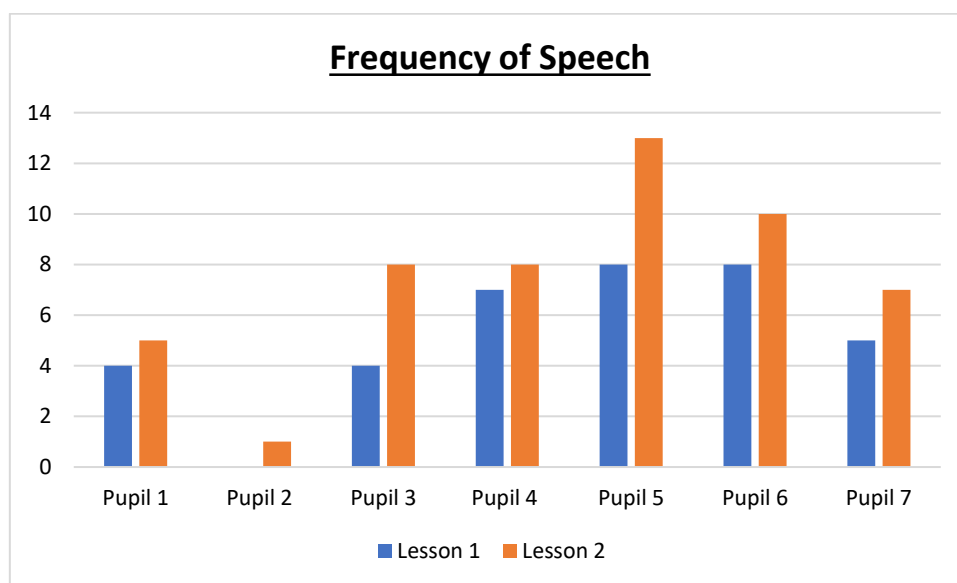


Figure 2 – Frequency of Speech graph based on observation tally.

This quantitative data collection method did have its weaknesses as accurately logging each and every time a pupil spoke proved challenging. A suggested amendment for future would be to draw upon another researcher to concentrate their attention on the collation of quantitative data whilst another focuses on the discourse. Alternatively consent for film recordings of the observation group could be requested.

A key strength of the research was the confirmation from pupils in the focus group that the diamond ranking was useful in bringing about discussion. When focus group two were asked “what do you think would happen if we didn’t use the diamond ranking?” a consensus emerged that it would make the activity more challenging and give way to even more disputes. When asked “do you feel the activity helped you talk to each other more?” pupil 5 responded “yes because me and pupil 6 never use to talk to each other” and “it was fun because we weren’t with the same people we are usually with every day” revealing the opening for collaboration this activity provided.

Such comments infer Brookfield and Preskills (2010) statement that other student’s dominance can sometimes be the problem in group work, and substantiate the surprise at

this pupil's higher level of participation. Observation notes from lesson one show dominance when pupil 3 'talked with pupil 6 about the subject and tried to feedback to the rest of the group but pupil 6 took over discussion.' Interestingly, this authority from pupil 6 in both observations didn't seem to affect pupil 5's involvement.

Limitations

One key reason given against the non-participant approach taken is the 'Hawthorn Effect', a term 'widely used to refer to the behaviour modifying effects of being the subject of social investigation' (Marshall, 2019). In light of the evidence collected it would seem that a degree of the 'Hawthorn Effect' did occur with a decreased level of expected output from certain individuals.

For reasons beyond my control the teacher of the class being studied became my research partner, resulting in the research being influenced in a number of ways. Understandably the possibility of observer bias increased due to the personal and prior knowledge their role as class teacher afforded them. In the development of the lessons there were also limitations on time. Despite having two designated research days the limited availability of my research partner resulted in both lessons being conducted on the same day, meaning the fresh repetition of the exercise may have contributed to the improvements exhibited. The lessons were carried out on the last day of the school week when their tiredness could have contributed to the agitation displayed by a number of pupils, thus making the validity of the study questionable.

Conclusion & Recommendations

The aim of this study was to investigate whether the use of diamond ranking improved discussions within the classroom. Two lesson studies were undertaken in order to establish whether its use furthered discussion, debate and reasoning whilst developing pupils respect of others and their opinions.

Overall the results obtained were positive in nature despite the aforementioned limitations. The data shows that diamond ranking structured the discussion, thus enhancing it, compared to the difficulty pupils felt they would face if it was not used. To allow a more accurate comparison it would be useful to observe a raw discussion taking place and then introduce diamond ranking for a subsequent discussion.

The research found that an argumentative trait within the observation group disrupted discourse, although this was created by three specific individuals whilst others tried to progress with dialogue. Having a dominant character within the group also illustrated how

the nature of discussions can be shaped by the individuals. It is accepted that group work has its advantages and disadvantages which was evident through the random selection process of the research group. Nevertheless, applying teacher's insight when forming groups can go some way in preventing disruptions similar to those experienced happening again. Also, as highlighted by Beebe and Masterson (2003), a group can 'capitalize on the virtues of group work and minimize the obstacles that hinder success' with a greater understanding. On this basis I trust that given more coaching in its use, children will be better equipped to reap the benefits diamond ranking offers and truly develop their thinking and discussion skills.

A particular strength of the study was the use of the lesson study method which required meaningful reflection and consequent action. Through this process knowledge was extended, skills and understanding increased and an openness to change gained which greatly impacted pedagogy (Welsh Government, 2019) for the second lesson. Pupils level of interaction increased across the board following the implementation of discussion rules and roles. Additional roles could be introduced in the future, for example a Questioner could expose pupils to Socratic Questioning, motivating them to think more deeply about their opinions and ensure their arguments are well thought out and reasoned.

The focus group interviews were greatly beneficial in giving a deeper insight into the minds of the children and how they perceived the value of diamond ranking and the significance of discussion. All but one of the pupils interviewed felt that the process of ranking helped and determined they would like to use it in future lessons. By actively involving the pupils in the research itself Demetriou, Wilson and Kellett (2010, cited in Clark, 2012) suggest that it can 'empower them to assume greater levels of participation' which may have been the case in this study.

Following analysis of all findings from this research I would recommend and be keen to use diamond ranking in my future practice as a way of generating initial discussion points and aid the breakdown of potential communication barriers. It is a useful tool to encourage debate and educate pupils on the importance of having good listening skills and respecting opinions different from their own. Diamond ranking, although just one strategy, develops an array of skills that contribute to an individual meeting many of the requirements set out in the four purposes underpinning education in Wales (Donaldson, 2015).

As Kuhn (1991, cited in van Gelder, 2005) recommends, the best approach to develop critical thinking skills is to regularly practice the skill to exercise and consolidate it whilst advancing understanding and intellect that will play a major role in the skill of critical thinking actually being applied. This study shows that the strategy of diamond ranking does not have

to be used independently as a means to improve discussion, rather if incorporated regularly in classroom discussion and supported by other strategies it has the potential to maximise a pupils' full critical thinking capacity.

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