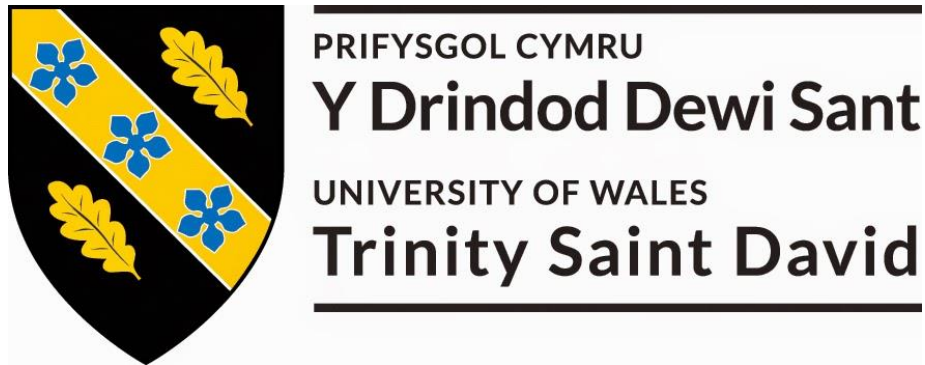




Does the use of 'talk partners' improve the quality of learner responses to higher order questioning in a Key Stage 2 classroom?

The Enquiring Teacher: ECPP7001

Student Number: 1700094

Group: 5

Word Count: 6,573

Student Self Evaluation Form

This section repeats in brief the common assessment criteria detailed on previous pages. The *extent* to which these are demonstrated by you determines your mark. Using these criteria, tick the box that best indicates the level of achievement you feel you have achieved with regard to each of them.

Common Assessment Criteria Applied	REFER		D	C	B	A
	OUTRIGHT FAIL	UNSATISFACTORY	SATISFACTORY	GOOD	VERY GOOD	EXCELLENT
1. Subject Knowledge and Understanding (which includes using research-informed literature and knowledge and understanding of the subject)	☐	☐	☐	☐	×	☐
2. Intellectual Skills (Analysis)	☐	☐	☐	☐	×	☐
3. Pedagogic and Professional Applications (Practical Application and Deployment)	☐	☐	☐	☐	×	☐
4. Key Transferable Skills	☐	☐	☐	☐	☐	×

PLEASE COMMENT ON AREAS IN WHICH YOU FEEL THAT YOU HAVE PERFORMED WELL	PLEASE COMMENT ON AREAS YOU FEEL THAT YOU NEED TO DEVELOP
Key transferable skills	If I had a greater word count I would have liked to have written a more detailed analysis

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Aim, Focus and Purpose of the Research

This study has been undertaken in order to improve an aspect of my own teaching practice. Whilst on a recent teaching placement, it was highlighted that my understanding and implementation of Assessment for Learning could be improved, specifically my use of higher order questioning. I also personally felt that I could improve on implementing collaborative learning into my lessons, as due to the nature of the lessons I taught during my placement this was something learners were given little opportunity to do. I felt that advancing my questioning skills and implementing collaborative learning would act in favour of my own professional development in addition to improving children's learning. Therefore, the focus of this close to practice research was to assess the impact of 'talk partners' as a strategy to improve the quality of learners' responses to higher order questions.

Research Context

The lesson study took place between two schools both within the University of Wales Trinity Saint David Athrofa Partnership. School A is a large school with two form intake located in a suburban area of Swansea. School B is located in a large town in South Wales and also has a two form intake. The number on roll in both schools are very similar as are the number of children eligible for FSM. In school A, the class my partner taught in was a year 6 class of 28 learners, whereas in school B, the class I taught in was a mixed year 5/6 class of 27 learners. In both classrooms, learners were sat in groups of attainment for the lesson study.

Throughout my placement, questions were not built into my lesson plans as I felt they would develop naturally depending on how the lesson progressed. For this reason I very rarely challenged learners with higher order questions. I was aware that this could impact the results of this research as the children had little experience in answering questions that require critical thinking. I felt it would be interesting to witness the effect of the use of talk partners in my year 5/6 class as this was a strategy that was used sparingly.

Literature Review

Higher Order Questioning

There is a clear link between research on improving the quality of learner response to higher order questions and the use of talk partners as a classroom strategy. Firstly, it is essential to consider that questioning can be one of the most effective and convenient ways to assess learner understanding. It has been found that primary school teachers spend between thirty-five to fifty percent of their input time questioning, and on average, sixty percent of questions asked are closed (Cotton, 1988), providing no degree of challenge or cognitive thinking for learners. This substantial figure is alarming when considering that open questions are statistically more beneficial as they involve children facilitating learning and thinking (Myhill and Hopper, 2006). Contradictory to this, Cotton's report summarising thirty seven research documents declares that posing questions, whether open or closed, throughout lessons leads to significant gains in attainment in comparison to using instruction (Cotton, 1988).

However, Myhill and Hopper also raise concerns that learner response to higher order questions can only be measured against teacher expectations and as a result of the child being consciously aware of this, they look for the answer the teacher wants to hear (Myhill and Hopper, 2006). This contradicts the view that open questions elicit a number of possible responses as it prevents the process of higher level thinking. This is supported by Cotton's report, which presents evidence that infers higher order questions do not usually produce higher level responses and in turn has limited impact on learner attainment (Cotton, 1988). She concludes that the use of closed questions in a primary school classroom are more effective, particularly for lower attaining children.

How could this be improved?

With this being said, it is important to understand what measures can be put in place to resolve or improve these issues. Wragg and Brown consider the importance of implementing higher order questions into lessons on a daily basis. They urge teachers to acknowledge and plan questions that could promote learning previous to the lesson taking place (Wragg and Brown, 2001). Dillon supports this, stating that teachers need to plan questions that

stimulate discussion in order to access higher level thinking (Dillon, 2004). This suggests that in order to implement effective questioning that improves attainment, the questions we ask need to be considered in the planning process.

It is also essential to consider learners previous experience with answering higher order questions. Learners should be exposed to higher order questions daily and taught how best to answer them (Cotton, 1988). Grugeon and Hubbard build on this, claiming that learners need to understand the importance and value of their talk and how this could impact upon their learning (Grugeon and Hubbard, 2006). They therefore propose introducing exploratory talk as a tool to access critical thinking skills and encouraging learners to speculate (Grugeon and Hubbard, 2006).

Guidance is key in helping learners to develop strategies to answer higher order questions. This scaffolding is an essential factor in training children to think critically as exploratory talk does not come naturally to children (Grugeon and Hubbard, 2006). Although guidance from a teacher is necessary in the first instance, discussion with a peer can also develop critical thinking skills. This allows learners to consider the viewpoints of others, embark on decision making and offer constructive advice.

How does this support the use of collaborative learning or 'talk partners'?

Early supporters of the constructivist theory, such as Jerome Bruner, Lev Vygotsky and Jean Piaget, were some of the first to emphasise the importance of social learning. Bruner insists that facilitating a learners thinking and problem solving should be at the centre of education as this can then be applied to a variety of situations (Bruner, 1978). Similarly, Vygotsky claims that social interaction is essential to cognitive development (Tryphon and Voneche, 1996). Piaget specifically noted the value of problem solving through peer interaction, stating that the combined effort produces the most innovative ideas (Tryphon and Voneche, 1996). This early research forms the basis of the notion of 'talk partners'.

The general consensus of recent research conducted on collaborative learning supports the early work of social constructivists. The Sutton Trust Toolkit states that collaborative learning has a largely positive impact adding five months to a child's learning for very low cost (SuttonTrust, 2018). Focusing on dialogic teaching, Robin Alexander has found

that psychological evidence and neuroscience clearly demonstrates that there is a positive correlation between language and thought (Alexander, 2017). This supports the use of talk partners in the classroom as language used during discussions can stimulate cognitive development. Baines et al have also found collaborative learning to be useful as working with others is a skill used in everyday life (Baines et al, 2009). More recently, this view has been shared by founder of the new curriculum, Professor Graham Donaldson, who states that “good teaching and learning encourages collaboration” (Donaldson, 2015; p70). Adding to Baines et al’s findings, Donaldson reports that functioning as a team member is a skill many employers seek in the workplace (Donaldson, 2015).

Focusing specifically on using talk partners as a strategy, Shirley Clarke has conducted an annual programme tested in schools throughout the United Kingdom. Generally, all teachers report a positive impact on their class after randomly assigning talk partners on a weekly basis. A school in Cardiff in 2017 stated that using random talk partners was fair and gave low attaining learners access to support as well as building on their confidence and skills. Results across the programme provide evidence that the use of talk partners improves the answers of low attaining learners more so than their high attaining peers (Clarke, 2018).

On the other hand, in her earlier work Clarke also recognises that talk partners can have the opposite effect on low attaining learners who lack confidence, acknowledging that working with a partner can be particularly stressful (Clarke, 2003). Furthermore, in some classrooms children are rarely provided with opportunity to conduct partner work. This often means when they work in talk partners, they are unclear on teacher expectations (Baines et al, 2009). In order to successfully implement a strategy such as talk partners, learners must first be taught how to work together.

A further issue discussed by Clarke is deciding upon how to group talk partners. Whilst conducting her schools programme, Clarke insisted upon using a random system where by talk partners changed weekly. However, as noted above, a child lacking in confidence could struggle with this system and is more likely to find forming a bond with a stable partner more beneficial. High attaining learners have also responded with negative comments, claiming they were worried they were ‘being slowed down’ and feared that their work was being copied (Clarke, 2018). This would indicate that a system allowing children

attaining similar levels to work as a pair could be favourable, particularly in seeing progress from high attaining learners. A school in Hertfordshire reported that using talk partners had lowered the gap between high and low attaining learners (Clarke, 2018). This would indicate that although talk partners has been beneficial in improving the answers of low attaining learners, their high attaining peers made little to no improvement. In consideration of this, for the purpose of this lesson study talk partners will be grouped by levels of attainment.

Lesson Study Design

After consulting recent literature on research techniques, it was decided that lesson study (LS) would be used as the main strategy for this close to practice research. Peter Dudley notes that it is a research method that aims to develop aspects within teaching and learning (Dudley, 2014). In this instance, the focus will be the use of talk partners as a strategy to improve answers to higher order questions. LS encourages reflective thinking and helps us to strive to ensure our teaching is providing the best opportunities for all learners. This will also promote my own professional development.

As a partnership, a lesson was planned that would be suitable for both the year 5/6 and year 6 class and differentiated accordingly. Teaching similar lesson content and remaining consistent in asking higher order questions improved the internal reliability of the research and ensured comparisons could be made. Within the lesson, learners were asked two higher order questions that had been previously planned. First, learners were allowed two minutes to independently note down their answer on a post it note. Next, they were provided with opportunity to discuss their answer with a talk partner for a further two minutes. Finally, learners were given an additional two minutes to add to their answer in different coloured pen. This essential piece of data allowed an in depth analysis where responses were compared to see the answers children were able to produce independently and assess whether these were improved through the use of talk partners.

This research involved a non-participant observation in order to allow the researcher to observe learners in their natural setting, this being their own classroom. The impact of subjectivity on the data has been minimised as in both lessons, the observer was unfamiliar

with the school and the class and therefore was less likely to have predetermined biases. The observer was positioned a fair distance away from the target children (Papatheodorou, 2015) and made no attempt to influence the behaviour of learners. However, learners were almost certainly aware of the observer's presence as their assent was requested before participating and consequently, the Hawthorne effect could have impacted their discussions. However, for the purpose of this study, deceiving learners of the true of aims of the study was considered unethical as it would prevent them from granting informed consent.

Before conducting the LS, letters were sent home to obtain parental consent (appendix A) and the purpose and aims of the research were explained to learners. In order to gain assent, learners were asked to indicate using a thumbs up/thumbs down system and the class teacher then signed to confirm that she had witnessed this (appendix B). A total of three learners opted out of the research and as a result their post it notes have been disregarded and are not included in the study. However, in order to prevent this it would have been necessary to deceive the children and hide the true aims of the study and this is considered highly unethical as it would prevent them from giving informed assent.

During the LS, the role of the observer was to take notes using the observation schedule (appendix C) on the engagement and interactions of four target children during discussion time. This observation schedule was used as a tool minimise subjectivity and to collect qualitative data from the perspective of an observer, adding context to the content of learner responses considering their engagement and interaction with a partner. Purposive sampling was used to select the target children on the advice of Mack et al, who states that this method is often successful when paired with data analysis (Mack et al, 2005). The target children for this research will consist of one high attaining pair and one low attaining pair. Although our sample could be considered unrepresentative as it only considers the extremities of high and low attaining learners, it was decided that this would allow for comparisons to be made in the data. Throughout this research, target children will remain anonymous and are referred to as child 'A,B,C,D.'

We conducted a focus group interview with our sample of target children after the lessons were taught. After reading the work of Breen, who states that focus group interviews are extremely useful in understanding student experiences (Breen, 2006) we integrated this

into our research to obtain qualitative data from the perspective of learners. A focus group interview was more desirable than individual interviews as the well-being and comfort of the target children was central to our study. In respect of this, the interviews were also informal and semi-structured, improving the internal validity of the research. Before conducting the focus group interview, the situation was explained to the target children who were then asked to sign a consent form to declare they understood and agreed to participate (appendix D). They were also reminded that they had the right to withdraw at any point. Prior to conducting the interview, five open ended questions were developed to gain an insight into learner's perspective on using talk partners (appendix E). Throughout the focus group interview, the questions were directed to the children by the observer, whilst the teacher took notes using the observation schedule (appendix F and appendix G). By conducting the interview in this way, learners were probably more inclined to respond honestly as they were unfamiliar with the interviewer and in turn this reduced desirability bias. One of the difficulties that was anticipated before conducting the focus group interviews was that the more confident children would overpower the voices of less confident peers. In order to overcome this, all children within the sample were provided with opportunity to give a response to each question.

Perhaps the most essential part of the research process was the reflection. The Welsh government writes of the importance of reflection, claiming that it puts you in control of your learning (Welsh Government, 2015). Reflective practice is an ongoing measure of self-improvement every teacher should strive for. For this reason, after teaching the lesson the ARC model was used to write a reflection on the teaching and learning that took place during the lesson (appendix H). Immediately following the focus group interview, the data collected was analysed and reflected upon collaboratively in order to draw conclusions. Reflecting as partnership was particularly valuable as feedback was given from the perspective of both the observer and the teacher. The notes taken using the observation schedule and written responses were considered to judge the impact of using talk partners. The target children's suggestions for improvement were then considered so that we could implement these into my partner's lesson.

Ethical considerations (300)

With regard to conducting research within a primary school setting, there are numerous ethical considerations that need to be acknowledged. Throughout this study, the University guidelines on ethical research (University of Wales Trinity Saint David, 2017) and British Education Research Association's (BERA) guidelines on educational research (BERA, 2011) have been consulted and adhered to. In light of this, both participant schools' health and safety regulations and safeguarding procedures were read and understood by my research partner and I before the LS was conducted.

In order to gain legal consent, the participant schools sent out a letter to the parents/guardians of all learners in the class being taught as part of the LS. This letter asked parents/guardians to grant or deny consent for their child to participate in the research process by ticking a box and signing (appendix A). As some parents/guardians had forgotten to return the letter, their children's notes have been disregarded and therefore will not be a part of the research. These children were also exempt from the observation and focus group interview. However, all children were obligated to participate in the lesson as it was a normal part of their school day.

In addition to gaining parental consent, it was also imperative to actively involve learners in the process by acquiring their assent. To achieve this, all learners were exposed to the aims and purpose of the research and asked to make their own decision about whether they wanted to participate. Learners were reassured that there would be no adverse effects and that they would all be treated equally regardless of how they chose to respond. They were then asked to signal with a thumbs up/thumbs down and the class teacher signed to state that she had witnessed this (appendix B). All learners were also assured that they had the right to withdraw from the research at any point.

Further assent was required from the four target children to declare that they were willing to be observed and participate in the focus group interview at the end of the lesson (appendix D). The focus group interview was conducted in the familiar classroom environment, with an unlocked door where learners felt comfortable. Questions asked were

open and learners were encouraged to answer honestly. No incentives were offered to learners to reduce the risk of bias impacting the results. Also, in consideration of the school, teachers and learners, identities remained anonymous. For this reason, the schools were described in terms of size and location to set context and the four target children have been labelled child 'A, B, C, D'.

Lesson Study and Analysis

Before delving into an analysis of data, it is important to set the context within which the data was collected. The lesson was planned thoroughly to include collaborative learning in order for the observer to record how learners worked with a partner. The lesson had an ESDGC focus, as the objective for learners was 'to develop an awareness of poverty and inequality' particularly considering having access to clean water (lesson plan appendix I). Throughout the lesson, learners were asked to compare their daily water usage to that of a child living in Kenya, and in consideration of this sort into essential and non-essential. The focus for the observer was to watch the discussion that took place when children were asked two specific higher order questions. These questions were 'What could be a consequence of Brenda having limited access to clean water?' and 'How do you think children who live in a country where there is a clean water shortage feel and why?'

This LS has produced a triage of qualitative data in the form of learners written answers to higher order questions, observation notes, and target children's responses to questions during a focus group interview. The written data produced by each of the target children will be analysed in addition to reporting how they behaved during partner discussion to give the best indication of how they arrived at their answer.

Analysis of Lesson 1

All four of the target children met the lesson objective to a certain extent. However, it was noted in the observation schedule that the quality of responses and discussion varied between both pairs of talk partners (appendix F). The dynamics of the pairs are demonstrated in the table below:

<i>Pair</i>	Attainment Group	Gender
1	Low	Both female
2	High	Both male

Table 1 – Demonstrates the contexts within both pairs (first lesson)

Although the split in gender of the sample was not an intentional aspect of the research, it is interesting to compare the data obtained. Due to the small scale of this research, the data produced by this sample is not substantial enough to make assumptions regarding gender and collaborative learning, but this could be an interesting topic to explore in future research.

Child A

It is noted in the observation schedule (appendix F) that child A was eager to share her ideas during both discussions. This would indicate that she is confident and she felt comfortable with her talk partner. She also demonstrated excellent listening skills and was engaged throughout the 2 minute discussion time. When answering the second higher order question, although child A wanted to share her answer first, limited discussion took place.

Child A's original written response to the first higher order question lacked detail and thought (appendix J). After talking to her partner, she was able to add new facts to her answer and considered further consequences of having limited access to clean water. This suggests that the partnership shared a rich discussion and extended beyond reading each other's answers and copying. Again, her response to the second higher order question was improved after discussion as she improved her adjectives.

Child B

Much like her partner, child B played an active role in the partner discussions. The observation schedule (appendix F) states that she dominated the first discussion when considering consequences of having limited access to clean water and was not afraid to question her partners answer. However, she was more tentative throughout the second discussion, simply reading her answer to her partner and listening to her partner's response.

After reviewing and analysing child B's original written response to the first higher order question, it is clear that her answer has also benefitted from the discussion that took

place. Similarly to child A, her original answer was brief, but after adding to it in green pen she began to consider solutions to addressing the lack of access to clean water (appendix K). In her response to the second higher order question, child B concentrates more on improving her adjectives than adding new facts to her answer. Nevertheless, this still improves her response.

Child C

When given opportunity to discuss his answer to the first higher order question, child C was more interested in comparing how much he had written to his partners answer than actually discussing the content (appendix F). During the post LS discussion, the observer stated that child C was engaged for a short time and although the sharing of answers took place, there was no discussion or questioning as expected with high attaining learners. Although Child C added to his answer, the lack of discussion indicates that he did not truly value his partner's input.

Child C's response to the first higher order question was factual but concise. He recognised that drinking dirty water could lead to disease (appendix L). However, when adding to his answer, it was clear that he had simply copied what his partner had written, supporting the observers notes which claim little to no discussion took place. Despite this, he extended his answer and added new information. When analysing child C's second answer, it was noted that it was very similar in content to his partners answer, highlighting that some degree of copying may have taken place. The additional information he added was also very similar to what his partner had written. This suggests that pair 2 simply exchanged answers and copied rather than having a discussion. Greater improvement could have been seen in their responses if they had discussed properly.

Child D

Similarly to his partner, child D found it difficult to remain on task for the duration of both discussions (appendix F). Our post LS discussion revealed that child D quickly added to his answers and used the remaining time to have a casual chat to his partner. There was clearly an engagement issue here and again there appears to be a lack of interest in sharing ideas.

Analysing child D's written responses provided further evidence that limited questioning and discussion took place between pair 2. Much like his partner, in his first response he wrote minimally and after discussion time he added exactly what his partner had written in his original answer (appendix M). However, when writing his response to the second higher order question he used excellent adjectives and incorporated an Alan Peat sentence structure. Although his original answer was detailed, he added some additional information, but this was information his partner had not used in his answer indicating that some discussion did take place.

Moving Forwards

After collating the data, it was evident that although the use of talk partners had improved the responses of all target children, pair 1 discussed their answers and valued each other's input more so than pair 2, and as a result their answers improved the most. However, this was not reflected in the focus group interview, where all learners agreed that they enjoyed working in talk partners and thought that it had improved their answers (appendix R).

During the post LS discussion, it was decided that some aspects of the lesson required modifying in order to see the full benefit of talk partners. The observer had noted that more support was needed for the low attaining children to help them in structuring their answer. It was also decided that learners required further input from the teachers on how to have an equal discussion as collaborative learning is something neither class had much exposure to.

It was imperative to include the learners in the refining process since they had experienced the lesson first hand. When asked how we could help them to improve the quality of their answers further, they requested a display of sentence starters and key words, more time to discuss, and suggested working in small groups rather than talk partners. As pupil voice is highly valuable, these ideas were taken on board and when refining the lesson to teach to the next class of learners. Key vocabulary and sentence starters were displayed on the board for learners to refer to whilst writing and discussing their answers. For the purpose of this study, the discussion time and group size remained consistent as altering these variables almost certainly would have impacted the data.

Analysis of Lesson 2

Within the second lesson, the dynamics of the pairs were slightly different as displayed in the table below:

<i>Pair</i>	Attainment Group	Gender
1	High	Mixed gender
2	Low	Both female

Table 2 – Demonstrates the contexts within both pairs (second lesson)

Child A

Child A appeared focused and on task whilst sharing her thoughts about the first higher order question (appendix G). It is noted in the observation schedule that she actually directs her talk partner back on task when he is distracted. Child A took a lead role during the first discussion, but was less willing to share her ideas when answering the second question. She asked her partner 'shall we just read out our answers?' (appendix G), which signifies that not a great deal of exploratory talk took place.

Child A's first written response was thoughtful and excessive as she empathised with those who have limited access to clean water (appendix N). However, when given time to add to her answer, the information she added was brief and barely improved the quality. This was reflected again in Child A's second response, where she had written another excessive answer but chose not to add much to it after discussion. This could have been because her partner gave little input in the discussion, or because she did not value his ideas.

Child B

Unlike his partner, child B struggled to remain engaged during both discussions and had to be repeatedly directed back onto the task by his partner. However, he did begin to question how the clean water crisis could be addressed through rationing and this is a clear link to prior learning. Limited discussion took place regarding the second higher order question as both partners simply read their answers. He did attempt to build the discussion by asking his

partner 'do you have anymore?' (appendix G). However, child B then proceeded to discuss something irrelevant.

When analysing child B's responses (appendix O), it was interesting to note that he had chosen to use bullet points. His answers were factual and concise, although fairly obvious, implying that limited higher level thinking took place. Child B added additional information to both of his responses, and although not substantial, this does improve the quality slightly.

Child C

Child C clearly lacked confidence as she was quiet and required prompting to talk to her partner (appendix G). Nevertheless, she was engaged and on topic and was able to relate the question to her own life to help her consider the impact having limited access to clean water would have. Child C listened carefully to her partner and agreed with what she had suggested.

When responding to the higher order questions, both of Child C's original written responses were detailed and based on factual information linked to prior learning (appendix P). This could imply that she doubts her own opinion and is sceptical to share with a partner in fear of being wrong. She was also able to add a considerable amount to her answers after discussion and consider the feelings of others, which significantly improved the quality.

Child D

It is noted in the observation schedule that child D was considerably more confident than her talk partner and led both discussions (appendix G). She was very conscious about turn taking and was able to build her partner's confidence by listening contently to her answers. Child D prompted discussion which allowed them to compare the similarities in their responses and also raised evaluative questions which allowed them both to add to their answers.

Child D's written responses to the higher order questions were detailed but aspects were irrelevant and some sentences were incomplete (appendix Q). However, giving her the opportunity to discuss and extend focused her responses considerably. Child D was able to

incorporate more factual information into her answers and correct some of her sentence level errors. The use of talk partners has significantly improved the responses of pair 2.

Moving Forwards

In hindsight, after analysing the data and listening to learner's ideas, there are some aspects of the LS that could be modified. Again, the analysis found that the children's lack of experience of working collaboratively impacted the results. Although more time was spent discussing the expectations of a high quality discussion during the second lesson, I predict that an increased positive impact upon learner responses would be seen if the class were regularly immersed in collaborative learning and taught about the value of talk. In order to avoid this issue, in future if undertaking this LS again in a similar class, discussions would be modelled to learners and they would be structured using sentence starters or questions to consider.

After listening to the views of learners during the second focus group interview, the consensus was that working in small groups would be more beneficial than talk partners as this introduces more ideas. If undertaking this study again, In light of what learners have requested, I would consider focusing on the effects of small groups rather than talk partners and also consider allowing learners more time to discuss their responses.

Discussion of Findings in Relation to Literature

As predicted, after analysing the data it was concluded that in both classes the low attaining talk partners improved their answers more so than the high attaining talk partners. This was reflected in the children's responses and the observation schedule provided helpful guidance as to how the learners had arrived at their final answer. Clarke's recent research supports these findings as she also states that using talk partners benefits low attaining learners significantly (Clarke, 2017). However, contrary to Clarke's (2003) findings with regards to under confident learners feeling distressed when using talk partner, it was discovered within our sample that a tentative child was able to improve her answer and build her confidence as a result of being paired with a peer she felt comfortable with.

Throughout the focus group interviews, all learners stated that using talk partners allowed them to generate better ideas because they were given time to discuss. This reflects the work of Alexander, who states that there is a positive correlation between language and thought (Alexander, 2017).

One of the key findings of the LS was that learners required more input on what a good quality discussion entailed. This was because both classes had limited experience in collaborative learning. This is supported by the work of Baines et al, who conclude that children who are not exposed to collaborative learning often need to be taught how to work together. (Baines et al, 2013). This is one of the challenges we faced, and some learners struggled even after demonstrating our expectations of a discussion.

We found that talk partners had the most impact on the responses of learners who were able to listen and question. This is supported by Grugeon and Hubbard, who claim that learners need to understand the importance of discussion and how this could improve their learning in order to use it to their advantage (Grugeon and Hubbard, 2006).

Strengths and Limitations of Research Methods

In order to ensure our data was collected in a reliable and efficient way, we designed an observation schedule in the form of a table (appendix C). This allowed the observer to record each target child's engagement, listening and questioning throughout the discussions. An important part of our observation technique was to stand back as an impartial observer rather than to involve ourselves in the lesson and this is something Chesterfield recognises as being effective practice (Chesterfield, 1997). However, we were conscious that this data collection solely reflects the viewpoint of the observer and therefore thought using pupil voice and written responses would improve the validity of the research and generate new ideas (Breen, 2006).

In consideration of ensuring the LS was internally reliable, questions in the focus group interview were asked in a consistent way and in the same order (appendix E). To avoid social desirability bias during the focus group interview, learners were asked to provide

honest feedback. As Delli Carpini states, focus group interviews allow participants to answer from a personal context, expressing opinions without being led by the interviewer (Delli Carpini, 1994). It was essential that the lesson was taught to both classes in a consistent manner following exactly the same plan and asking identical higher order questions (appendix I). Although the lessons were taught in different classrooms, these classrooms were a natural setting for the children being observed and therefore this also improves internal reliability.

This LS had high external validity as it was carried out in a real life setting. Our sample of target children was representative as the lesson was conducted at two different schools in different locations and very similar results were achieved. It is evident that within any natural setting we must be aware of confounding variables and how these could impact upon our results. Some examples we recognised include, learners' age and mood, time of day, and who their talk partner was. Measures were put in place to eliminate the effects of some of these variables, for example the sample of target children selected were all in year 6. Although we tried to organise for our lessons to both be taught in the afternoon, due to prior commitments within the school, the second lesson had to be taught during the morning and we are aware that this could have impacted the results.

Conclusion (800)

On the whole, conducting this LS has undoubtedly impacted my professional development positively. I have gained a wealth of experience and found witnessing a lesson as an impartial observer particularly beneficial as this is something we have limited opportunity to do as teachers. This experience has given me the opportunity to visit a different school setting and witness a peers teaching practice and this exposed me to new ideas and behaviour management techniques that I feel I could use in my own practice. Conducting the focus group interviews were also encouraging as the children produced some excellent ideas that I feel I carry forward into my practice. This experience has certainly highlighted the importance of pupil voice.

If given the opportunity to teach this lesson again, in hindsight I would consider changing some aspects. During the focus group interviews, all learners suggested that in order to improve the lesson we could allow children to work in small groups rather than talk partners. This was because they felt their responses would benefit more if they were given the opportunity to hear a greater range of ideas. I would also provide sentence starters and key vocabulary to give learners something more tangible to discuss as the feedback implied that learners needed more direction. This was probably because neither class were experienced in working collaboratively prior to the LS.

The data produced throughout this research has encouraged me to improve my own practice. In my future teaching practice, I will strive to instil collaborative learning in my classroom because I have seen first-hand the impact it can have, particularly for low attaining learners. I will encourage all learners to use talk partners, but more importantly I will teach them how to have a good quality discussion. I will implement this by modelling through shared class discussions, encouraging speculation and questioning to generate new ideas. With regard to using talk partners, I will set up pairs strategically to ensure less confident children are in a partnership where they feel comfortable. Within our small sample, we found that this not only improved the quality of response, but had a positive impact on the child's confidence and well-being.

In addition to promoting collaborative learning within my classroom, I will also encourage the use of pupil voice as I have learned that this can be extremely valuable in improving teaching and learning. Learners presented us with sensible and thoughtful ideas during our focus group interviews and allowed us to view our lesson from the most important perspective.

When analysing the data collected, some subtle trends were evident that could warrant further research. For example, our sample found that generally, male learners were less engaged during discussion and in turn less improvement was made in their responses than in the responses of their female peers. Due to the small scale of this study, the evidence we have collected is not substantial or valid enough to make any claims or assumptions. However, I recommend that this could be an area which would benefit from further research.

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Appendices

Consent Form for
parental/guardian
Consent.

 Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Yr Athrofa
Institute of Education
Addysg i Gymru Education for Wales

Dear Parent/Guardian,

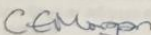
Your child's school is a partner with Yr Athrofa at University of Wales Trinity Saint David in Carmarthen and Swansea. This school offers placements to students who are learning to be teachers.

The student-teacher in your child's class has been given the task of planning, teaching and evaluating one lesson so that he/she can develop specific strategies to improve their own teaching. As part of this, student-teachers will be observing the children's responses and asking some pupils their views on parts of the lesson. This is designed to inform students' own practice and support children's learning.

Any information collected would remain confidential, and both the school and the children would remain anonymous in work produced. The work undertaken would be in line with the University's ethical guidelines. If, at any time, your child does not want to share ideas, they would not be required to do so.

If you are happy for your child to contribute to the project, please complete the parental consent form below and return directly to the school as soon as possible. If you are interested in the outcome of this project or if you have any questions, please contact the University Partnership Office - partnership@uwtsd.ac.uk.

Yours faithfully,



Catherine Morgan
Module lead – The Enquiring Teacher

As Parent/Guardian of..... (pupil name), I do / do not give consent (please delete) for my child to take part in this project.

Signed.....(Parent/Guardian).

Date.....

Appendix A – Parental Consent form, sent out to all children in both classes who were a part of the lesson study.

Lesson Study (verbal-teacher to sign)

Introduction to the research to be read to the class.

Today we are going to be looking at how well you respond to my questions. We will be giving you the chance to talk to a partner to improve your answers. This is part of some research that we are doing at university, I've brought my friend with me who will be taking some notes. You do all have to be apart of the lesson but if you would not like to be part of the research please let me know. Thumbs up if you are happy to be part of this research.

Teacher's signature to confirm the children's assent:

3 pupils put thumbs down so their answers will not be a part of the results.

Appendix B – Teacher's consent to confirm that she had witnessed learners giving assent.

Observation Schedule

Question:

Child	Response
	(Are they actively involved? Are they leading discussion? Are they listening to their partner? Are they questioning their partners answer?)
A	
B	
C	
D	

Appendix C – Blank Observation Schedule, used by the observer to note children’s interactions in talk partners.

Assent Form for
Focus Children.

Assent Record

After the lesson, I am happy to answer some questions about today's lesson.

I am aware that I can withdraw at any point and I don't have to participate if I don't want to.

Please tick the following box and write your full name if you give assent to take part.

Signed:

Focus Children.

Assent Record
 After the lesson, I am happy to answer some questions about today's lesson.
 I am aware that I can withdraw at any point and I don't have to participate if I don't want to.

Please tick the following box and write your full name if you give assent to take part.

✓ Signed:

Assent Record
 After the lesson, I am happy to answer some questions about today's lesson.
 I am aware that I can withdraw at any point and I don't have to participate if I don't want to.

Please tick the following box and write your full name if you give assent to take part.

Signed: ✓

Assent Record
 After the lesson, I am happy to answer some questions about today's lesson.
 I am aware that I can withdraw at any point and I don't have to participate if I don't want to.

Please tick the following box and write your full name if you give assent to take part.

✓ Signed:

Focus Children.

Assent Record
 After the lesson, I am happy to answer some questions about today's lesson.
 I am aware that I can withdraw at any point and I don't have to participate if I don't want to.

Please tick the following box and write your full name if you give assent to take part.

✓ Signed:

Appendix D – Records of assent from target children.

Questions for Focus Group Interview

Post Observation
Focus Interview.

1. How do you feel about working in talk partners? Why?
2. Do you think using talk partners improve the quality of your answer? Why?
3. Do you think ~~you think your~~ discussions were equal?
4. What else do you think we could do to improve the quality of your answers?
5. When this lesson is taught again to different children, what do you think we should keep the same or change?

Appendix E – Questions for focus group interview.

Observation Schedule

Question: What could be the consequence of
 ① Brenda not having clean water?

Child	Response
A	Straight away said 'I said...! on task throughout
B	Dominated the discussion. on task throughout
C	Comparing the amount they wrote. Just read each others post-it notes.
D	Comparing the amount they wrote Not much discussion about water happening.

Observation Schedule

Question: How would you feel if you lived in a
 ② Country where there is a water shortage.
 Why?

Child	Response
A	Wants to go first in the discussion Read it out to partner listened to partner
B	Read it out to partner listened to partner
C	Read each others answers Then got distracted
D	Read each others answers Then got distracted.

Appendix F – lesson 1 completed observation schedules.

Question: <i>What is the impact of not having access to clean water on Brenda's life?</i>	
Child	Response (Are they actively involved? Are they leading discussion? Are they listening to their partner? Are they questioning their partners answer?)
☐ A	<i>shares answer. she can't wash properly... Considers the water runs out quickly. Very focused and on topic, directs partner back to talk about the question.</i>
☐ B	<i>Unhygienic and she could catch diseases. Maybe they ration water. Off topic slightly towards the end, started talking about pens.</i>
C	<i>shares answer. Relates to her own life, we can just get water from a tap. Quieter and spoke less than partner. Needed prompting to talk to partner.</i>
D	<i>Discusses similarities in their answers. Asks partner how could she get access to clean water. Spoke more than partner. Focusing on turn taking, asking her partner to share. Needed prompting, just read answer to start.</i>

Question: <i>How would you feel if you lived in a country where there was a water shortage? why?</i>	
Child	Response (Are they actively involved? Are they leading discussion? Are they listening to their partner? Are they questioning their partners answer?)
A	<i>shall we read out what we have? I would feel lucky and grateful. Not as much input as the last question.</i>
B	<i>I would feel sad. Anyone else have anymore? Thirsty. Cherish water I had. led discussion.</i>
C	<i>No energy, would effect my schoolwork. Not as much discussion during this question. More equal in response this time.</i>
D	<i>I agree I wouldn't have much energy and would be dehydrated. Not as much discussion during this question. More equal in response this time.</i>

Appendix G – Lesson two completed observation schedules.

Reflection.

Model Beirniad Wedi Adfyfyrio (BWA) Assisted Reflective Conclusions (ARC) Model

Dyddiad/Date: 27/03/2018

Digwyddiad critigol (Ffocws)/Critical incident (focus): Lesson study.

Profiad/ Experience		
Teimladau/ Feelings Beth yw eich teimladau ynghylch y profiad? "What are your feelings regarding the experience?"	I am pleased with how learners behaved during the lesson and I think they enjoyed having the opportunity to work in partners. However, I took for granted their knowledge on discussions.	
Cofio a Deall/ Remember and Understand Allwch chi restru'r agweddau ar y profiad dysgu a oeth yn dda? "Can you list the aspects of the learning experience that went well?" Pa elfennau o'r profiad dysgu oedd yn siomedig? "What were the elements of the learning experience that were disappointing?"	What went well... - The learners were enthusiastic and engaged during my input. - The children liked using talk partners - The lesson objective and success criteria was met.	Disappointing elements... - Children knew less about discussions than I thought. They rarely work in partners and some struggled in discussions as they didn't know what was expected of them. - Low attainers needed extra support to write their answers.
Gwerthuso a dadansoddi/ Evaluate and analyse Beth fyddwch chi'n cadw'r un fath i sicrhau dysgu ac addysgu effeithiol yn y dyfodol? "What will you keep the same to ensure effective teaching and learning in the future?" Beth oedd achos yr elfen siomedig bwysicaf? "What was the cause of the most important disappointing element?"	Keep the same - Lesson plan - Engaging hook - Element of partner work - Behaviour management	Cause - Children have limited experience when working collaboratively - I did not consider that the lower attainers would need prompts such as key vocabulary.
Casgliadau a chymau gweithredu/ Conclusions and actions Beth yw eich atebion posibl i'r materiau siomedig a nodwyd? "What are your possible solutions to the disappointing issues identified?" Beth ydych yn mynd i'w wneud nesaf? "What will you do next?"	In tomorrow's lesson, I will suggest that my research partner gives low attainers sentence starters to structure their answers. I will also suggest that she gives the children success criteria for a good discussion and spends some time emphasising this.	

Appendix H – ARC reflection model, used to reflect after teaching lesson one.

Cardiff Learning Advancement The Children's Centre  The South West Wales Centre of Teacher Education				1B
Session Plan – Key Stage 2				
Name of trainee: [redacted]		Session ref: Topic for TET		
Personal target(s) in relation to QTS: To focus on the use of higher order questioning				
Year group: 5/6	No. of learners: 27	ALN: N/A		
Additional Adults: [redacted]				
Learning objective(s): To develop an awareness of poverty and inequality		Success criteria: • Explore how we use water in our own lives • Understand the impact of not having clean water on other people's lives • Explore the positive impact having clean water can have on education and health		
Links to previous learning: N/A (this is a one off lesson)				
Curriculum coverage (range, skills)				
Evaluating, understanding, Comparing, Discussing				
Literacy (LNF) Contribute to group discussion, taking some responsibility for completing the task well		Numeracy (LNF)		
DCF	Thinking Think, pair, share	ESDGC Discussing poverty and inequality	YCC	
Key vocabulary(English/Welsh): Inequality, Poverty, Sanitation, Hygiene				
Time	Session activities, organisation and management		Key questions & Assessment for Learning opportunities	
5 mins	Introduction - Introduce Obj and Success criteria - Think about what we use water for in our everyday lives - Act out your answer to the rest of the table to see if they can guess what you're thinking - Write as many uses down on a group mind map as you can		What do we use water for every day? A3 Paper	
5 mins	Main activities Higher order question (post it notes)		Post it notes Different colour pens What could be a consequence of Brenda not having access to clean water?	
15 mins	Sorting activity – essential non-essential (group task)		A3 Paper	
15 mins	As a group think of interview questions you could ask a child who the Red Cross has helped.		A4 paper	
10 mins	Plenary Higher order question (post it notes)		Post it notes Different colour pens How would you feel if you lived in a country where there is a water shortage? Why?	

Appendix I – Shared lesson plan.

1. If Brenda dose not have ^{clean} water
 she could die. She could get
 disable because the wight and
 her bone might not grow
 properly.
 2)

2) IF I had no water I would
 feel ~~scared~~ ^{scared} because I might
 die any minute and so
 will my family. I would
 feel guilty and all whyed
 because other people would
 have lots of water.

Appendix J – Lesson 1 - Target Child A's written responses to higher order questions.

• She could become sick and possibly die
 from terrible ~~diseases~~ ^{illnesses}. There
 are special drinking tubes that people
 use so you can suck dirty water and
 it will become clean from the net in the
 middle.

I would feel ^{guilty} about ~~needing~~ ^{needing} back because
 I would think it's my fault because
 I could travel to get ^{water} it if I was
 in Brenda's situation I would feel
 terrible knowing I could die it
 would be breathtaking.

Appendix K – Lesson 1 - Target child B's written responses to higher order questions.

He might become ill and sick because
Animal dung might be in it, and he could
catch a disease. He could also die
from that disease because of what happens.

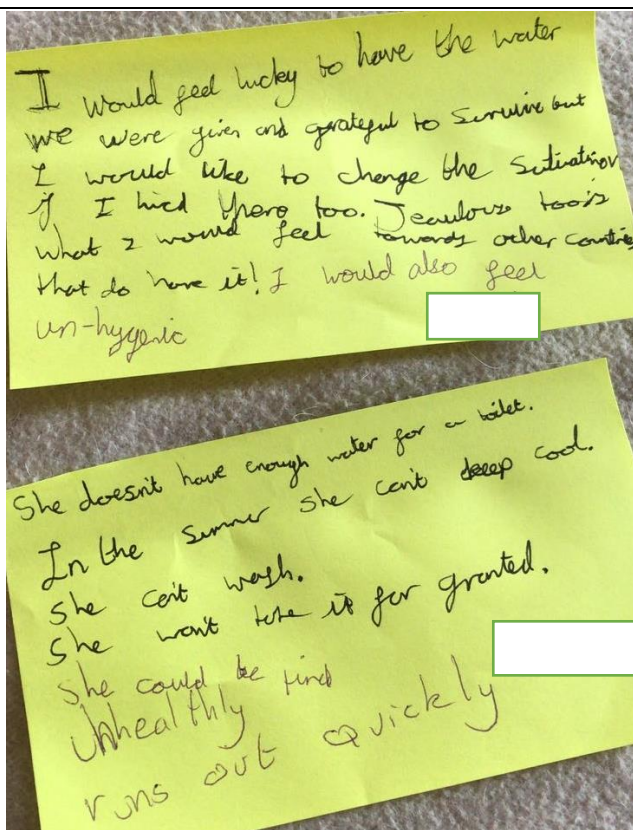
I would ~~feel~~ feel happy ~~and~~ ^{and} ~~because~~ ^{and} ~~sad, upset, and dejected~~ ^{and} ~~because~~ ^{and} ~~I could die of thirst and live an~~ ^{and} ~~unhappy and miserable life.~~ ^{and} ~~I would~~ ^{and} ~~also be exhausted from carrying water; I'd~~ ^{and} ~~be working hard; can't do things I can do now.~~ ^{and}

Appendix L – Lesson 1 - Target Child C's written responses to higher order questions.

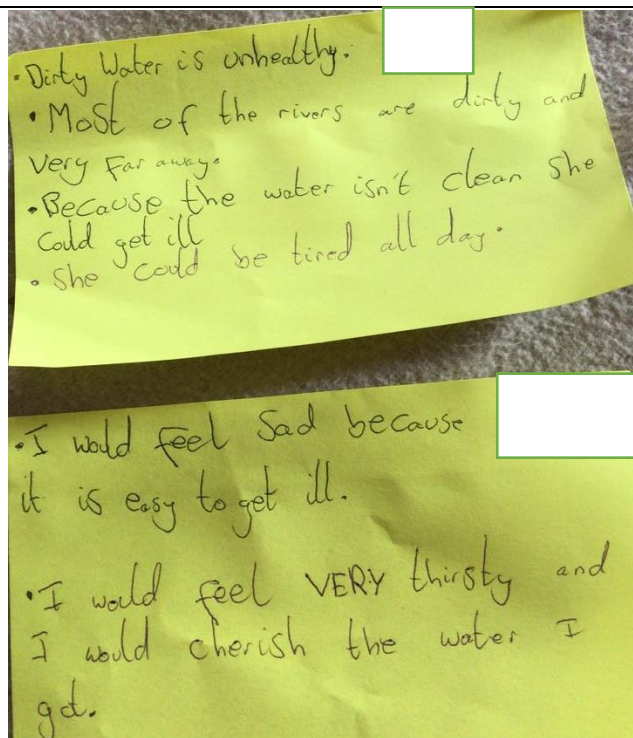
If Brenda does not have clean water, ^{as}
(conseq) she might get diseases and get
ill or die. It could have dirty things
in it such as animal dung.

If I lived in a country where there
wasn't much water I would feel
dejected ^{and} ~~because~~ ^{and} ~~I'd be working very~~ ^{and} ~~hard; drinking dirty water; I wouldn't~~ ^{and} ~~be able to do things I can do~~ ^{and} ~~right now.~~ ^{and} ~~I'd walk for miles in a very hot country.~~ ^{and}

Appendix M – Lesson 1 - Target child D's responses to higher order questions.



Appendix N – Lesson 2 – Target child A's written responses to higher order questions.



Appendix O – Lesson 2 – Target child B's written responses to higher order questions.

I would feel dehydrated and tired, because I would not have any water in my stomach and our bodies are made up with 75% of water. I ~~was~~ think it would affect my school work and why are we just standing here, maybe we could be helping those people how do not have water.

Before school she could be out of energy and not be focused for school.

She is spending 2 hours collecting water and that water could be diseased. Those 2 hours she is collecting water she could be spending at school.

Appendix P – Lesson 2 – Target child C's written responses to higher order questions.

It is harder because she has to spend 4 hours a day just to get two boxes of water when we can just walk like 5 steps away.

It is hard for education cause loads of people go to school to learn and go far in life but if they haven't got water there are loads of things you need for winter.

I would feel terrible having to walk so long just to get a glass of water because if we had the help by someone nice and kind or someone we would be fine and have no energy and would affect my school rates and not be as good as I could be.

Appendix Q – Lesson 2 - Target child D's written responses to higher order questions.

1. How do you feel about working in talk partners? Why?

A - Happy but annoyed because it's difficult when you come to a disagreement. We didn't come to a conclusion overall because we had different opinions.

B - It was nice to share ideas.

D - I like partner work because I think it improves my work.

C - It can be annoying when you disagree with your partner but it is good for building teamwork skills.

2. Do you think using talk partners improves the quality of your answers? Why?

C - Yes it definitely improves your answer because it helps you to add more detail and extend.

B - Yes because it can help you to improve vocabulary for example you may use an adjective and your talk partner may know a better one.

A - I think sometimes talk partners can improve your answer but it depends who your partner is. Today I don't think it improved my answer much. I was worried my partner was copying me and I think my partners answer improved more than mine.

D - It depends on who your partner is. If you both give equal suggestions I think it can but sometimes your partner may not have much to suggest.

3. Do you think your discussions were equal?

B - I don't think it matters how long you speak for really. I would have liked some more time to share my idea with my partner.

D - I would say we both spoke equally.

A - I think I spoke more than my partner.

4. What else do you think we could do to improve the quality of your answers?

B - I think you could give us some sentence starters on the board because sometimes I struggle to think of how to start.

D - I think if you gave us some more time to discuss I would improve my answer.

A - I liked the photo that you used in the PowerPoint but maybe you could show us some more photos of Brenda or a video to help us with our answers.

C - I would like key words around the classroom to help focus my answer so that I know I am writing about the right thing.

5. If we were to teach the lesson again, what do you think we should keep the same or change?

D - I think this could be taught over a longer time because I was really enjoying the lesson and wanted to learn more.

B - Definitely keep the talk partners.

A - I think you should keep the talk partners but maybe extend it so there are four people working in a group. I would give children more time to discuss because sometimes we ran out of time. Maybe every group could have an object to pass around and unless you have the object you can't speak. You could time it so that we know when to pass on the object so that everyone speaks for equal time.

B - I agree I think we could have improved our answers more if we had longer to discuss.

C - I like the idea of using an object to pass around to make sure each person speaks for equal time.

Appendix R – Focus group interview transcript post lesson 1.

