

ASSIGNMENT DETAILS AND FEEDBACK

SOUTH WEST WALES CENTRE FOR TEACHER EDUCATION

Sections marked with * should be completed by module lead

Student name:	Kora George	Student P number:	1701712
Programme: *	PGCE Primary		
Module: *	The Enquiring Teacher	Module Level (6 or 7):*	7
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Module Lead:*	Catherine Morgan		
Assignment Title:*	Write a critical and analytical essay that discusses your practitioner research 'lesson study' in relation to a chosen field.	Assignment No (x of x):*	1/1
Start date:*	09/01/18	Submission deadline:*	16/04/18
Return date of provisional marks & written feedback:*			

Referencing:	In the main body of your submission you must give credit to authors on whose research your work is based. Append to your submission a reference list that indicates the books, articles, etc. that you have read or quoted in order to complete this assignment (e.g. for books: surname of author and initials, year of publication, <u>title of book</u> , edition, publisher: place of publication).		
Submission:	All assignments must be submitted to Turnitin unless otherwise instructed by the Lecturer. Note: the Turnitin version is the primary submission and acts as a receipt for the student. Late submission of the electronic version of the assignment will result in a late penalty. Penalties for late submission: Up to one week late, maximum grade D. Over one week late, Refer. Only the Extenuating Circumstances Panel may grant an extension.	Date:	16/04/18
Module lead to tick to indicate if a hard copy version of the assignment must be submitted.*			YES

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)	☐	☐	☐	☐	X	☐
2. Intellectual Skills (Analysis)	☐	☐	☐	☐	X	☐
3. Pedagogic and Professional Applications (Practical Application and Deployment)	☐	☐	☐	☐	X	☐
4. Key Transferable Skills	☐	☐	☐	☐	X	☐

PLEASE COMMENT ON AREAS IN WHICH YOU FEEL THAT YOU HAVE PERFORMED WELL	PLEASE COMMENT ON AREAS YOU FEEL THAT YOU NEED TO DEVELOP
I have demonstrated a sound understanding of the Lesson Study model and its relevance in reflective teaching practice. I have used the model to research and refine the impact of a teaching strategy specific to my professional teaching experience.	I am working on developing my academic writing in the scope of a research enquiry. I have read many research articles to help me with improving my understanding of the presentation of small scale research projects.

Student's Name	Kora George	Date	12.4.18
Student's Signature	Kora George		

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Abstract: *In recent years, teaching and learning in modern environments has been transformed by the onset of classroom cooperative learning techniques, often in a mixed ability context. With the aid of the Lesson Study model, this enquiry aims to look at ways in which pupil engagement may be supported by the refining of a specific cooperative learning technique.*

Aim, focus and purpose of the research

The year 5 class in which I spent my last teaching placement had recently moved from ability to mixed ability grouping; often working in a cooperative learning context. The new arrangements seemed to have a direct impact on the wellbeing and subsequent engagement of certain individuals in the class. (Appendix 1). As the placement progressed, I learned to refine strategies to pre-empt and overcome behavioural problems caused by the transition from whole class to group work; but, as the groups were pre-established and given the time-frame of the placement, there were limited opportunities to experiment with different cooperative learning strategies. In contrast, my research partner taught in a year 6 class where the children worked in ability groups for the duration; tasks were differentiated and although the children seemed comfortable in their groups, there was little scope for them to work cooperatively with children other than those in their immediate ability group. My research partner was keen to introduce some different ways of working to her class; she felt that the children would adapt well to being grouped differently, with the lower attaining children potentially gaining from the scaffolding they may obtain from their more able peers. Together we decided that we would focus our enquiry on the impact which a specific cooperative learning strategy may have on pupil participation in the context of a mixed ability classroom.

Research Context

Despite the two schools' differing approach to grouping, the classes were comprised similarly in that they both accommodated upper key stage 2 children; Year 5 (25 pupils) and Year 6 (23 pupils) respectively. Both schools were of similar demographic, with an above average quota of FSM children. Although our motivation for the research question differed slightly (in that my thinking was largely driven by minimising the disruptive behaviour resulting from recent changes to grouping); my research partner and I agreed that we would use the Lesson Study to enable us to modify the use of a *specific* cooperative learning strategy. This would, in the long-term, support us in improving our own practice by exposing any initial flaws in the technique; enabling us to make valid observations as to its usefulness across varying contexts. We agreed that the existing contrast in grouping arrangements would enhance our research by helping us to observe how a class grouped by ability might adapt to working with different children. We were interested in finding out whether the low levels of wellbeing associated with group-work in school B were a feature of behaviours embedded in resistance to change; or a direct reaction to the actual group-work itself. For us to achieve our aim of improving levels of pupil participation, we recognised the importance of promoting a culture of interdependence.

Different researchers refer to varying definitions of cooperative learning but, in the scope of our research, it was crucial that the learning objective was directly related to the aims and purpose of our study; meaning that pupil attainment was defined according to the children's ability to successfully research a topic in an 'expert' or jigsaw group and then verbally report back findings to their cooperative learning group. The success of the shared written task was dependent on the participation of each 'expert'; with a view to improving participation in children from *all* abilities.

Literature review

In their research into the challenges associated with implementing group work in a primary school setting, Baines *et al* (2015) point out that there is a wealth of persuasive evidence that promotes a positive link between cooperative and collaborative group work and academic attainment. However, much of this experiential research is based on small scale, short term studies that are specific in design and not necessarily a true reflection of a typical every day context where teachers develop group-work strategies over time. By contrast, numerous studies have highlighted resistances to the use of group-work; with students demonstrating a reluctance to participate due to concerns about being wrong or because of the possible negative impact on peer relations (Galton *et al*, 1999). With these points in mind, it was important to be clear about what exactly we wanted to use our research for in terms of reflective practice. By drawing on Aronson's jigsaw strategy (1971) we agreed that our primary focus would be to improve pupil participation in a mixed ability, cooperative learning context. In the same way that Aronson and his students sought to address individual competition in a racially desegregated classroom context; our research would aim to reflect on ways to improve pupil participation in a primary setting where children were historically used to working in what could be deemed as an 'unequal' status (i.e. Higher, middle and lower attaining groups). Over the past four decades, advocates of the jigsaw classroom have recognised key features which help disperse biases; and, in the scope of our research, these biases were characterised by children from different ability groups. We therefore had to ensure that all children had equal status and were grouped heterogeneously with no regard to ability.

In his vision for a new curriculum for Wales, Donaldson (2015) highlights cooperative learning as an essential attribute of a successful pedagogy. He values

Hattie's research (2011) which concludes that cooperative learning *is* effective; suggesting that maximising active learners should constitute the central aim of schooling. Both Donaldson (2015) and Hattie (2011) suggest that good teaching is characterised by the ability to provide opportunities for learners to engage in deliberative practice; where teachers create *structured* contexts for peers to learn and achieve together in a cooperative context.

In their study of varying cooperative learning strategies, Gillie and Ashman (2000) suggest that a more pronounced improvement in on-task behaviour and overall involvement in the learning process was noted when learning groups adhered to the framework outlined by Johnson and Johnson (1999). Our Lesson Study therefore needed to provide structured opportunities for participants to engage in the five basic elements of co-operative learning: positive interdependence; face to face interaction; individual accountability; interpersonal and social skills; and group processing (Johnson & Johnson, 2008). With this in mind, it was agreed that each member of the group would be individually accountable for one topic in the completion of a shared learning objective; the jigsaw grouping would ensure that the success of the task depended on each individual group member *verbally* presenting their understanding to their original group; the teacher would aim to facilitate a positive, prosocial learning environment in which the children could accept and support each other; and the focus group interviews would provide our observed children the opportunity to reflect on and process their own – and others' - role in the group (in relation to the achievement of the group goal).

As stated by Gillies (2016), a further consideration of effective cooperative practice is the composition and size of the groups concerned. He highlights a meta-analysis of 66 studies which demonstrates that students work better and achieve more when placed in groups of 3-4 members as opposed to those

comprised of 5-7 members (Lou *et al*, 1996). With this research in mind, we agreed that our jigsaw or ‘expert’ groups would include no more than 4 children.

Methodology

Our research was supported by Peter Dudley’s Lesson Study model (2011). Originating in Japan in the 1870’s, Lesson Study (LS) is a specific form of classroom centred action research. Originally developed as a means of refining teacher practice, LS has become globally renowned as a fundamental tool in the deepening of teacher knowledge (both pedagogical and subject); and the associated improvement in standards of educational attainment among pupils (Dudley, 2011). However, findings from a large-scale UK effectiveness trial funded by the EEF suggest that there is no evidence to indicate that the LS model can improve pupil attainment. The EEF (2017) does, on the other hand, acknowledge the relevance of the *structure* of LS, highlighting its collaborative context and additional synchronicity as beneficial to teacher professional development. It is, then, important to point out that, in the scope of our research, the LS model can only ever contribute to a very initial framing of our aim to improve pupil participation through cooperative learning strategies. Although collaborative enquiry into teaching and learning is deemed to have the single most impact on improving educational outcomes (Robinson *et al*, 2009), the small scale, short cycle and isolated time frame of this Lesson Study may limit our enquiry; enabling us to make small steps in refining our pedagogical approach for future cooperative learning classroom practice; but not, however, enabling us to make any valid judgements as to whether jigsaw grouping *can* improve pupil participation in a wider context. Furthermore, whilst the Lesson Study provides a useful tool to enable us to address our research aim, there are limitations to watering down the original model (Weston, 2015). The effectiveness of LS stems, in part from its intensity (EEF, 2017); with Dudley (2011) stating that a

triad is preferable for its success. There is, then, scope to build on both our enquiry and our practice by further iteration of the lesson in question.

Data Collection

Coles and McGrath (2010) characterise the research process as a three tier hierarchical process, involving methodology, strategy and data collection tools. In this instance, observation and focus group interview were used as tools to support our reflection. My research partner and I, in turn, assumed the role of non-participant and participant observer respectively (depending on whether or not we were teaching); each of us supporting the reflection process with detailed field observation notes and the use of a checklist which recorded the case study pupils' involvement and wellbeing according to a Leuven scale (Appendix 2). Developed under the supervision of Professor Ferre Laevers (2005), the Leuven scale originally evolved as a tool to measure the development of children in their early years. Despite its pre-school origins, the scale provided us with useful criteria by which we could record our case pupils' wellbeing and involvement; enabling us to frame both observations with a consistent unit of measure. Working on Laevers' (2007) rationale that high levels of wellbeing and involvement promote a deeper level learning, each researcher was able to quantify the case pupils' involvement and wellbeing on a scale of 1 to 5; enabling us to make judgements about the engagement of different pupils in different contexts. For the purpose of this study, involvement was defined as one or more of the following behaviours: participant taking notes; providing feedback to either of the groups; reading or researching on the iPad; and displaying signs of active listening in whole class introduction or plenary (eyes on teacher, raised hand etc). In their guide to Education Research, Coles and McGrath (2010) allude to the care which needs to be undertaken when making quantitative judgements from qualitative data. Our data collection was based mainly on the *subjective* response

of the non-participant observer and the *subjective* attitudes of the sample case pupils so was, in the main, qualitative. However, by using open ended questions to develop the pupils' viewpoint, it was possible to increase the validity of the reflection by breaking down any pre-judgements as to what we, as researchers, defined as important to the study. Our observation schedule also required that the observer quantified the involvement and wellbeing of the case pupils. The reliability of this descriptive quantitative approach was, nevertheless, still jeopardised by the subjectivity of the observer in this instance. Any conclusions drawn from the scaling of the children's involvement or wellbeing cannot, for example, be truly comparable across ability groups as each setting was observed by a different researcher, each with her own set of values and beliefs.

The interviews and observations were semi-structured with both schedules framing our overall focus of pupil participation. We used open ended questions to develop the pupils' viewpoint. This increased the validity of the reflection by breaking down any pre-judgements as to what we, as researchers, defined as important to the study. The data collection did not then restrict us from making broader observations relevant to our research brief (such as the relevance of dialogue or the role of lower attaining pupils in cooperative learning groups). By using a combination of the children's perceptions *and* their observed actions, we were able to minimise researcher bias and increase the potential for us to reveal new data to aid us with the continuous development of our teaching practice. Three case pupils were selected per setting; each typifying a low, mid and high attaining group of children. There were obviously limitations to using such a small, stratified sample but in the scope of this study, it was assumed that owing to the qualitative nature of our research, this method provided the most reliable and representative insight into the thoughts and feelings of the class at large.

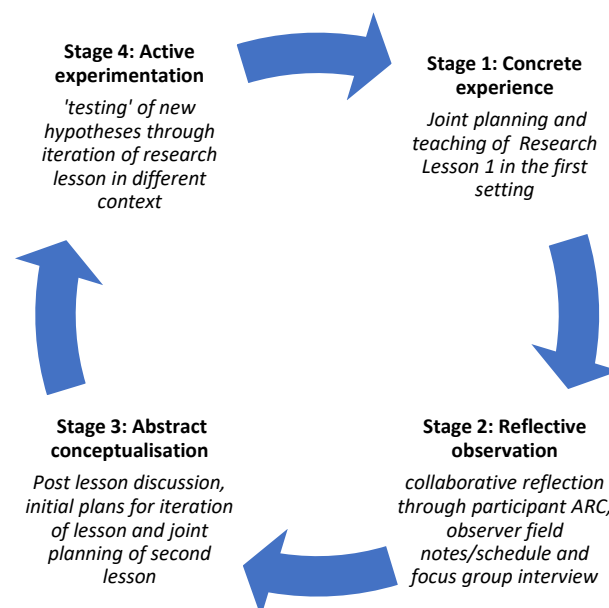
Reflection

A key feature of the Lesson Study cycle is the post-lesson analysis and discussion which Dudley (2011) suggests should take place immediately or as soon after the event as possible. The collaborative nature of the reflective process in LS enables the researchers to use peer observation as a means of discovering any gaps between the assumptions and expectations of how their pupils learn and the actual happenings within that context. In their insight into teacher continuing professional development, Arthur *et al* (2006) cite time to engage in sustained reflection and structured learning as a key entitlement in the process of CPD. However, as Pachler *et al* (2003) point out, urging *individual* practitioners to merely reflect and reflect again can be unproductive. As demonstrated in the Lesson Study model, it is the element of collaborative enquiry or experiment between teachers which provides perhaps the most powerful means of reflection. In our study, the effectiveness of the Lesson Study cycle was, in many ways, supported by what Brookfield (1995) refers to as one of the four lenses that we need when obtaining a vision of our own teaching practice. By drawing on the useful “lense” of a peer, who in our context assumed the role of a non-participant observer, we were able to use the diversity of our experiences to explore alternatives and open new ways of seeing and thinking about practice (Trevitt, 2007). The effectiveness of this “lense” was particularly useful in adding an element of objectivity to the reflective process. As we were observing a class unknown to us, the lack of any prior knowledge helped us to avoid making any predictions about the behaviours and learning capabilities of the case pupils in our observation notes. Although Brookfield’s notion of the Four Lenses (1995) is more directly concerned with the teacher as a focal point (as opposed to the LS case pupil focus), he does cite peer review of teaching philosophies as an essential ingredient in improving teaching and learning outcomes; supporting our research

into how a specific teaching strategy or philosophy can impact on pupil participation.

Schon (1983) characterises reflective practice as two almost separate processes: Reflection-in-action and reflection-on-action. The Lesson Study model afforded us the time and resource (as characterised by the peer research partnership) to look back on our practice; supporting us in making decisions as to how best we could develop our research aim in the iteration of the same lesson. In the context of our research we framed Schon's reflection-on-action in our use of a specific reflective model (an Assisted Reflective Conclusions template); which enabled us each to move our thinking through a series of stages as encouraged in our current Profession Teaching Experience (Appendices 3 & 4). By echoing the four stages of Kolb's Learning Cycle (1984), we were able to integrate our reflection into the Lesson Study learning process; enabling us to interpret our experiences into real life recommendations which we then went on to test out in the second research lesson.

Fig 1: Our reflective process as based on Kolb's Learning Cycle (1984)



Ethical Considerations

In its Ethical Guidelines for Education Research, BERA (2011:4) weighs up all aspects of the research process, suggesting that adherence to this document aims to support researchers to “reach an ethically acceptable position in which their actions are considered justifiable and sound”. In accordance with UWTSD Research Ethics & Integrity Code of Practice (2017-2020), it was then vital that we submitted an application for ethical approval before conducting the research.

Article 12 of the UNCRC (1990) states that children should have a say in matters that affect them. As the participants of our research lessons were all under 16, it was necessary to determine their assent by obtaining written approval from those who act in their guardianship. This was done via an explanatory letter which requested consent from each child’s parent or guardian. As researchers, we took responsibility for openly informing participants of what the research was about; why it was being conducted; what the purpose of the study was; and what would happen to the results. By using a precursory explanatory statement, the pupils were issued with the right to withdraw from the research at any time. A tick sheet allowed us to obtain a written record of the pupils’ involvement and the pupils were issued with explicit verbal assurance of their anonymity; the confidentiality of the findings; and the safe storage of any findings or observations.

Lesson Study 1 (and post-lesson analysis)

Children were introduced to World War II as the theme for the lesson (Appendix 5). This was an isolated theme which the pupils had not yet encountered as a school curriculum focus. Their prior knowledge was assessed through questioning based around a visual Power-point introduction which the teacher used to encourage verbal interaction and discussion on a whole class level. The three case pupils demonstrated varying levels of engagement during the

introduction. Child LL and LA seemed attentive, both raising their hands appropriately to suggest that they were engaging in the lesson. WR's continuous fidgeting/drinking of his water bottle suggested a lack of engagement; however, his feedback was frequent and he often shouted out in eagerness to answer the questions.

The children were grouped in their 'expert' formation and given their research topic. At this point, the teacher realised that some children had left the classroom for various reasons; some of the jigsaw groups were consequently smaller than others with one of the case pupils working in just a pair. LL and WR were in the same group. They both assumed a dominant role. LL happily distributed the resources while WR took the iPad for himself with no consideration of other pupils in the group. He seemed to engage with the topic and displayed a short period of intense focus. He chatted to other members of the group; relating his conversation to the overall topic of World War II.

Child 3: He (*Adolf Hitler*) didn't like the Jews..... they (*Hitler and his allies*) were Nazis, weren't they?

He worked his way through the task quickly and made some concise notes about his topic. He claimed to have "finished" his research at that point; stating that he was hungry. At that point he appeared less engaged; he did, however, remain on task. He searched various images of children's gas masks on the iPad and was keen to discuss his findings with his peers.

LL demonstrated a low concentration span at times; and long periods of inactivity in which he was observed staring into space. He flicked quickly through some of the books; seemingly unable to locate any relevant information. He was often

smiling and seemed happy to listen to the others discussing World War II. He quietly asked WR for the iPad but was not heard. WR passed the iPad to another group member which caused LL to protest. LL became frustrated and stopped looking at the books. At this point his engagement in the research was very low; he had, however, already made a few notes on his paper. On finally obtaining the iPad, LL typed a question into the Google search engine: *How come people had to have them*. It took him a few minutes to realise that he had not included the subject in his question. He corrected his question and started to read the information. He didn't write anything down as by then it was time to move back to the original groups.

LA worked in a pair researching Evacuation. She worked well with her female partner; demonstrating a continuous level of engagement throughout the research period. The pair worked systematically; reading the information aloud in turn and then writing notes.

The children returned to their original groups. LL was visibly less happy in his original group. Unlike his 'expert' group, his original group included two girls. The four children sat in a row and LL could not hear one of the girls report back her topic to the group. He asked her to speak up. He became quite rude to the girl; repeatedly saying "you smell". The teacher joined the group and his behaviour altered. He took his turn to feed back some of his information on gas masks while another child annotated the main picture.

LA seemed equally content in her original group. She appeared to have difficulty in selecting what to feed back to the group. She remained continuously engaged and displayed obvious signs of happiness; smiling and laughing with her peers. WR was also comfortable in his original group. He reported back some interesting facts to his peers. The child who was scribing his information found it difficult to keep up with his report. She encountered difficulty spelling some of

the words that he used. His choice of vocabulary was mature and noticeably higher level than that of his peers. WR became increasingly frustrated.

Each of the three children contributed to the plenary when prompted. WR spoke clearly and confidently; making some interesting contributions despite appearing less engaged than the others. LA was also happy to contribute; when probed, she demonstrated empathy with the evacuees and was able to use suitable adjectives to describe how she may have felt. LA seemed less comfortable when she was not reading from her notes. LL expressed some discomfort when being asked to contribute his findings to the class. However, he went on to give an impressive explanation of how gas masks work. He was not reading from his notes; using his own words to demonstrate excellent understanding of the technicalities behind the gas mask and its usage. This was by far the deepest level of answers.

Hattie (2011) suggests that enhanced teaching and learning occurs when teachers can create environments where they can talk about their teaching; find critical learning opportunities in their errors; and explore their own difficulties, knowledge and understanding. My research partner and I used our post-lesson discussion to create opportunities to reflect together. Using the observation notes, focus group feedback and Assisted Reflection Conclusions model, we were able to shape our collaborative enquiry into how we could revise the lesson for the next setting. Overall, the pupils seemed to have enjoyed the task and the new way of working. There were, however, some obvious barriers to their learning. As a higher attaining pupil, WR seemed frustrated by many aspects of the lesson. Apparently, it took “too much time” to give out the stickers; a member of his group “didn’t know what she was doing”; the observation notes suggested he was frustrated when his scribe couldn’t keep up with recording his points; and the *Find Out about...* lesson cards which framed the research element seemed to restrict his learning. He quickly found his three facts, composed his two

questions, recorded his one word to describe his feelings and so “finished” the task before other children. For the purpose of our Lesson Study cycle, we decided that the task needed to be enhanced to accommodate our higher attaining learners. We also agreed that, although the cooperative groups would remain mixed ability, we could differentiate by resource. In their research into the jigsaw strategy, Aronson *et al* (1997) suggest that differentiation should be by instruction. They advocate the use of texts of varying degrees of difficulty which complement each other. We agreed that when distributing the resources to the jigsaw groups we would ensure that higher attaining children were using the more difficult books (teacher to model the use of Index) and that the less able had access to the simpler fact sheets. Within the original cooperative learning group we would also facilitate the reporting back element. Each child would verbally contribute but we would make suggestions as to presenter-scribe partnerships. This would ensure that the lower attaining children could benefit from listening to feedback from their more able peers; but would not be put in the position of recording vocabulary which was unfamiliar or difficult to spell.

On a more practical level, we decided that it would be better to group the children on the day. That way we could make certain that we accounted for any absences. We agreed that it was crucial that each jigsaw group accommodated more than two people; ensuring that the task retained its element of interdependence and that the “expert” groups were actually *groups* not pairs.

We also agreed that the children were not sufficiently motivated by the interdependent element of the task. We discussed strategies which we could introduce to support the pupils’ understanding of their individual accountability. We agreed that we needed to motivate the children by stressing the relevance of the expert groups throughout the lesson; using mini plenaries to assess individual

learning; and reminding the class that individuals would be selected to present back their completed group work in a structured whole class plenary.

Lesson Study 2

The iterated lesson was taught in a class that had been introduced to cooperative learning groups but not in a jigsaw formation. Many of the children had previously experienced some difficulty when adapting to the new mixed ability groups. The lesson started well; the introduction was well received and most children were engaged and ready to learn. CD and JD seemed particularly happy with the topic choice and were keen to contribute to answering some – if not all – of the initial questions; suggesting a good degree of prior knowledge of World War II. JD was observed to be smiling and communicative. However, when the jigsaw group numbers were allocated, JD frowned; another child in the group shouted out that JD didn't want to be in that group. JD removed himself from the group. When allocated his topic, JD protested, asking why he couldn't do "anything else". From this moment, JD's activity was observed to be low; he was disengaged, spent much time looking at the ceiling and appeared visibly distressed (tearful). Although JD was eventually observed to carry out some research, he was reluctant to contribute his facts to the group task and made it very clear that *Women of the War* would not have been his chosen topic because "he didn't know anything about it".

CD displayed much higher levels of engagement in the lesson than had been demonstrated in any lesson undertaken in the context of teaching placement. He worked well in both his groups; supported other group members; spoke clearly and confidently about the topic by sharing anecdotal stories and facts from his research; and demonstrated a clear enjoyment of the lesson (Appendix 7). CD was patient with the fellow group member who had difficulty annotating the final product with his researched information. He seemed to make considerably more

contribution to the class discussion in both the introduction and plenary than many of his more able peers. He was equally happy in both his cooperative learning and his jigsaw group.

AR approached the task with ease. She was happy to work with both groups, although in the interview, she did imply that she would have enjoyed the task more had she been working with one of her friends. This was not, however, observed to impact on her wellbeing or involvement in the lesson. AR modestly stated that she hadn't been able to teach her group anything new, despite being observed to confidently relate her research to her cooperative learning group. She enjoyed finding out new information although like AR, approaching the task 'cold' (with no prior knowledge) seemed to affect her confidence a little. Engagement was sustained throughout the lesson and AR demonstrated a positive attitude to each aspect of the cooperative learning strategy. As the higher attaining participant, AR was directed to some higher level texts for her research.

Discussion

Although, as Nystrand *et al* (1997) point out, small group work does not categorically produce learning, there is much evidence to suggest that cooperative learning strategies can maximise learning by improving pupil's participation through dialogue; with social constructivists making continuous calls for more collaborative group work within primary pedagogy (Lyle, 1996). Although none of the case pupils made any explicit reference to having talked *more* in the cooperative learning context, there was evidence that the cooperative context contributed to a renewed energy in classroom talk where many of the children were encouraged to use talk to explain and evaluate a topic for themselves. Alexander (2001) characterises dialogic teaching according to five key principles; talk, he advocates, should be collective, reciprocal, supportive, cumulative and purposeful. Alexander (2001) suggests that dialogue is most likely to prosper in

a classroom culture characterised by collectivity, reciprocity and supportiveness. And indeed, in our lessons, by verbally relaying their research to their cooperative learning group, participants were observed to use talk to *collectively* complete the task. This was demonstrated more effectively in the second lesson where, by refining the practicalities of the grouping, participants were ensured a climate of positive interdependence; with just one ‘expert’ per group *exclusively* responsible for reporting back their topic to the group. Most participants were also observed to engage in the *reciprocity* which Alexander alludes to. In the main, the children listened to each other, shared ideas and considered alternative viewpoints where appropriate. This was particularly evident in the first setting, where participants were observed to discuss their opinions about Hitler and anti-Semitism (Appendix 2). Alexander examined the power of talk in advance their learning and understanding. We gained evidence of case pupils *supporting* their peers through talk. Both JD, AR and WR alluded to having used talk to facilitate learning in a supportive context. Despite being obviously frustrated by another group member’s lack of input, WR told us how he scaffolded his group; using questioning to encourage them to contribute some element of research to the group task.

T: How did you resolve these issues (*difficulties in the group*)?

WR: I tried to remind them what they did – questioned them – what is this based on?

Again, in accordance with Alexander’s five principles of dialogic talk, some of the participants demonstrated a *purposeful* approach to their talk, which they suggested had been more a feature of the cooperative learning context. CD and WR (a lower and higher child respectively) both disclosed that although they didn’t talk any *more* in this context, their talk was more ‘relevant’; “about new

things” and less “babble”. This suggests that both children exercised elevated levels of on-task behaviour by clearly adhering to the structured, goal-focused principle which Alexander highlights as another characteristic of dialogic talk.

In their research into the credibility of the jigsaw approach, Aronson *et al* (1997) highlight some features of effective practice; drawing attention to the idea that pupils should use discussion to make clear connections between one another’s reading. This supports Alexander’s notion of cumulative talk (2017). Throughout the research period, we saw LA and another group member using talk to build a coherent line of thinking in their research. Their approach was systematic; with each participant building on each other’s verbal contribution as a means of deciphering the relevance of the research before documenting the information in a written context.

Research into Cooperative learning emphasises mixed ability grouping and individual accountability as key to its relevance in advancing the learning and understanding of pupils. However, as Dillow *et al* (1994) highlight, few studies have focused specifically on the effects of cooperative learning situations on the achievement of female students. Despite its significantly small sample, there were opportunities to make observations according to gender in our research. There was, for example, a clear difference in the ways in which boys and girls participated in the lesson. The female participants were scaled as a 4 for both well-being and involvement; with the girls observed to be continuously engaged with no social issues to report. Interestingly, the girls seemed less likely to speak out in a whole class scenario. LA was observed to raise her hand tentatively in the whole class introduction, whilst AR seemed to prefer to report her group’s findings in a one-to-one teacher pupil context (as opposed to the whole-class scenario favoured by her male peers). A distinct lack of confidence was noted in her interview answers. Despite having completed the most research, AR doubted

the idea that she may have ‘taught’ the group anything new. In contrast, WR demonstrated that he was not afraid to take risks when answering questions in a whole class environment. It did not matter to him that an air raid shelter was not a “trench” or that “hungry people” was not necessarily the answer that the teacher was looking for when probing pupils to guess the concept of rations.

Cooperative learning originally came about as an antidote to the individualistic and competitive learning which has historically characterised educational practice. Interestingly it seemed to be the male case pupils who were more resistant to the cooperative nature of the activity; with JD, LL and WR displaying traits which we could associate with a more competitive learning style. LL and WR were observed to show impatience with their less able peers; they favoured more individual research with technology and were seen to argue over access to the iPad; LL struggled to cooperate with the girls in his group, choosing to sit himself in a position which prevented eye contact and where he could make rude remarks about his female peers; and WR was keen to be the first to have finished his research. JD expressed much interest during the introduction where he could compete with his friends to be chosen to answer a question and ‘show off’ his knowledge of World War II. However, when grouped and allocated a topic “which he knew nothing about”, JD quickly lost interest and his engagement plummeted to a 1 on the involvement scale. It could be said, then, that our research echoes that of Dillow *et al* (1994) which highlights cooperative learning as a valuable means of encouraging female students to value their own “voice” and achievements. The small group learning environment was shown to work well for the seemingly less confident female participants; who shared the highest overall score for both involvement and well-being.

In his Lesson Study handbook, Peter Dudley (2011) highlights that the collaborative nature of the observation and reflective process often reveals that

lower attaining pupils are shown to repeatedly perform at a very different level from that which had been previously thought. This was indeed a significant finding in our research. Selected to typify learners from a lower attaining group, both CD and LL demonstrated an evidence of learning which surpassed that of their so-called more able peers. Despite quite prolonged periods of disengagement and some obvious social issues deriving from the group work, LL demonstrated the highest level of comprehension of all the case pupils. His explanation of how a gas mask works displayed an understanding which clearly represented an element of deep level thinking. It was unclear whether he had obtained his knowledge from the books or from the iPad research; it could have been from text or diagram; it may even have been prior knowledge that he didn't feel comfortable contributing during the introduction (he was, after all, intimidated by the "pressure" of his whole class contribution in the plenary). It was, however, clear that he had absorbed the information, processed it and presented it clearly in a confident, mature explanation.

Similarly, CD demonstrated a surprising level of participation in the learning process. Scaled at 3 for involvement and 4 for wellbeing, it seemed that an elevated motivation (he shared a genuine interest in World War II with his Dad) and an active learning environment gave rise to a greater involvement in the task. In their research into the effectiveness of structured cooperative learning groups, Johnson & Johnson (1999) suggest that students (like CD) who become more involved in the learning process are more likely to express their ideas, understand the content more thoroughly and experience academic success. This was evident in the behaviour of this individual case pupil, who, in the context of this lesson demonstrated a significantly improved level of engagement.

In contrast to the success experienced by the lower attaining case pupils, the behaviour of another of the case pupils suggests that grouping and cooperative

learning strategies have the potential to negatively impact on a child's wellbeing. JD displayed much resistance to his group. He moved to work alone and was observed to be crying at several points during the lesson. On reflection, it was highlighted that JD struggles in a social capacity and is currently being assessed for Autistic Spectral Difficulties. In their consideration of the five principles of cooperative learning, Johnson & Johnson (2006) acknowledge that a student's social skills can impact on the effectiveness of cooperative learning. This was directly reflected in our enquiry; where the social anxieties of an individual presented a significant barrier to learning in a cooperative learning context.

Conclusion: Implications for future practice

In the scope of this enquiry, it seems that a specific cooperative learning strategy like the jigsaw approach can positively influence the participation and subsequent learning of Key Stage 2 children. In view of a developing curriculum in Wales, a cooperative learning context is shown to promote the confidence and positive peer relationships to which Donaldson (2015) alludes. Lower attaining children appear to benefit from a structured group task; particularly when they can work in a mixed ability context. There is, however, danger of higher attaining children not maximising their learning potential; differentiation by instruction may be necessary to extend the learning opportunities for these children. Furthermore, cooperative grouping contributes to a context where pupils may demonstrate increased engagement through active participation in dialogic talk; where they learn to develop stratagems for talking, thinking and learning (Gillies, 2016). Opportunities for girls to work in small cooperative learning groups seems to be preferable for developing confidence in speaking and listening. And, whilst boys demonstrate a more individualistic approach to learning, the cooperative learning context can encourage boys to motivate and support their peers in a positive manner. As a result of this review, a cooperative pedagogical approach to learning

should, however, be approached with consideration of the five key components of successful practice. In many instances, pupils may need to be *taught* the social attributes required for high quality cooperation (Johnson & Johnson, 2009); particularly in the case of children with additional needs or less developed social skills.

6585 words

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Appendices

Appendix 1: PTE 1 Reflection

1.1 ARC 22.1.18

22.1.18 Geography: 22.1.18 A Day in Pompeii

Lesson went fairly well. I knew that the 'Co-operative' learning element would be the biggest challenge for this class. We warned them not to complain about groups which helped.

- ✓ Lovely to see CM so engaged and confident in a written task
- ✓ JD loves History so was 100% focused for the entire lesson.
- ✓ Behaviour was good - just a lot of chatting - and children genuinely enjoyed the video clip. ✓ lots of fascination surrounding the topic of volcanoes which we can carry across the topic
- ✓ Pupil voice evident X JC really struggled with the whole morning and was quite disruptive for the other children. X Introduction wasn't as well received as I had hoped - too long for this class maybe? X some groups didn't cope very well with the co-op learning NB. SK + CM swapped roles which confused things a bit.

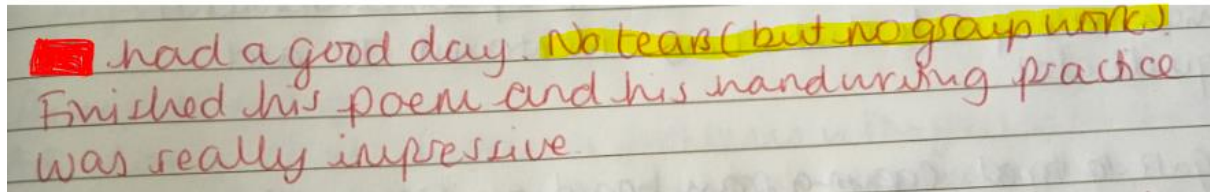
1.2 Observation notebook 6.2.18

found it hard to recall his sentence in group situation
 However, really good work in Maths. Responds so well if he's in the right mood and with the right people. Enjoys one-to-one. NB. Rounding.

6.2.18

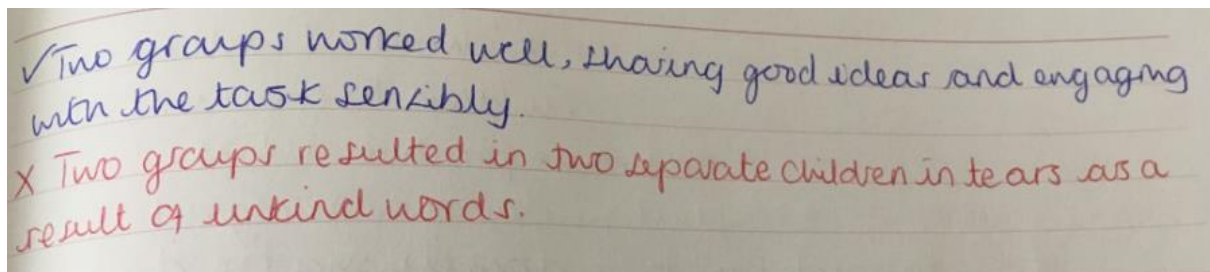
struggling uncontrollably - cannot work in a group
 stressing about 2 children in particular. Really unpacking on his work now. Certain pieces of work missing from his book. Gravitates to SK but not a good combination

1.3 Observation notebook 7.2.18



had a good day. No tears (but no group work).
Finished his poem and his handwriting practice
was really impressive.

1.4 Extract from ARC 6.2.18



✓ Two groups worked well, sharing good ideas and engaging
with the task sensibly.
X Two groups resulted in two separate children in tears as a
result of unkind words.

Appendix 2: Lesson 1/ non-participant observation**Date:** 27.03.18**Checklist Observer:** KG**Time scale:** 60 mins

Context: Lesson Study took place in School A and lasted around 60 minutes. Three children were observed for the duration. Observations were made by a non-participant observer. Child 1 = LE; Child 2 = LA; Child 3 = WR. Each child was representative of a different attainment group, Low, mid and high respectively.

	<u>Child 1</u>	<u>Child 2</u>	<u>Child 3</u>
1. Low activity			
2. A frequently interrupted activity			
3. Mainly continuous activity			
4. Continuous activity with intense moments			
5. Sustained intense activity			
<u>Leuven Scale*</u>			
Involvement scale level	2	4	4
Well-being scale level	2	4	3

Notes

<u>Child 1: LL</u>	<u>Child 2: LA</u>	<u>Child 3: WR</u>
<u>Intro</u> During the intro LL seemed attentive. He was surprisingly negative when asked for feedback – thumbs down. This seemed as expected by T. <u>Jigsaw group/Research</u> LL took the lead with resources and distributed them to the group. He engaged in nice conversation in the group. Became a little distracted by facts in the book, he was enjoying reading it. When	<u>Intro</u> During the intro, LA was very attentive. She tentatively put her hand up to contribute. She was quiet but obviously listening. She was often seen smiling and liked it when T talked about her own Mam. She communicated that she understood the task (thumbs up) <u>Jigsaw group/Research</u> LE seemed happy in her group as there were only two of them	<u>Intro</u> WR appeared distracted during the intro. He was quite fidgety and was drinking from a water bottle at times. However, his feedback suggested that he was engaged and actively listening. He volunteered information which was relevant and went on to guess the topic from the clues. He was confident in raising his hand to contribute and sometimes shouted out in eagerness to make his point heard. He was happy to take

guided, he started to use the Index in the book and was able to make his learning relevant. LL was often seen swinging on his chair, seemed happy in the initial group. Smiling to himself and content in listening to others' talk about the work. Low concentration span became apparent. Often staring; inactive but smiling when engaged in others' conversations. At one point, LL wanted the Ipad. He asked quietly once but wasn't heard. He eventually got the Ipad. He googled "How come people had to have them". He meant gas masks (his topic) but didn't include the word in the initial search. He realised his mistake quite quickly. He settled down to work when he had the Ipad, but it was time to move on. He had, however, made some notes by this point from his initial reading. <u>Feedback/Original group.</u> LL was visibly less happy in this group. The children sat in a row so he couldn't hear what the girls were talking about. He asked the girls to speak up. He started being quite rude to the girls concerned. He said "You smell" repeatedly. When the teacher came to the group, his behaviour altered. He was keen to impress the teacher. He spoke clearly, made good eye contact and made some relevant points. Excellent recall of facts. <u>Plenary/Whole class feedback</u> Didn't like the "pressure" of the whole class feedback. However, after a bit of a fuss he gave a fantastic explanation of how gas masks work. His feedback demonstrated	looking at Evacuees. She read literature to her peer and was engaged throughout. They worked nicely with each other. She worked continuously and was constantly on task, splitting her time between reading and writing the information. The girls seemed to find a good way of working; they read, discussed, made notes and then moved on to a different resource. They didn't use the Ipad. LA seemed more than happy with the books and printouts. Great cooperation and turn taking. <u>Feedback/Original group</u> LA seemed equally happy in a larger group of different children. She had made a lot of notes and seemed to have difficulty choosing what to feed back to the group. She spoke clearly, making some good points. She showed signs of obvious happiness – laughing, smiling – and seemed to thoroughly enjoy feeding back to the group <u>Plenary/Whole class feedback</u> LA seemed happy to contribute to a whole class discussion during the plenary. T asked her some nice questions which encouraged LA to draw on her own thoughts and feelings. She displayed empathy with the evacuees. She seemed quietly confident in her contribution to the class.	risks in his answers; and didn't worry about making mistakes. He guessed that the air raid shelter was a "trench" and offered "hungry people" as an answer to the rationing question. <u>Jigsaw group/Research</u> WR went straight for the Ipad. He assumed a leadership role from the outset. The first conversation he had was about being stabbed in the eye. WR suggested that he was trying hard not to speak when T prompted him to stay on task. It didn't take long for WR to focus on his work. He was heard to talk relevantly about his subject. He became increasingly engaged in his work and displayed a short period of intense focus. He spoke to his peers about the War.. "He didn't like Jews, did he?".... "They were Nazis, weren't they?". WR said that he felt tearful about having to wear gas masks. Towards the end of this group work, he said that he was hungry. He had "finished his work" before the other children and became slightly distracted again. <u>Feedback/Original group</u> WR offered some really interesting points to the group. His choice of vocabulary was varied and mature. He became slightly frustrated by the scribe who was less able and wrote more slowly than SR spoke. <u>Plenary/Whole class feedback</u> WR happy to be selected to feedback answers to the whole class. He spoke confidently and clearly, making some interesting points. Appeared distracted at times, but his
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excellent understanding and was a high level answer. He spoke clearly and addressed the class with maturity		contributions proved that he was more engaged than he seemed.
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Appendix 3: Participant ARC Lesson 1/School A

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

Dyddiad/Date: 27.03.18

Digwyddiad critigol (Ffocws)/Critical incident (focus): Improving pupil engagement through the use of a specific cooperative learning strategy

Profiad/ Experience	
Teimladau/ <u>Feelings</u>	I really enjoyed this lesson as it was very different to my normal way of teaching. I think it took a while to organise the learners into their cooperative learning groups and to give them their jigsaw group stickers but if this was a normality in the classroom I believe it would run smoother, although the children were patient and coped well with the change in routine. The lesson went very well and the learning objective was met by all children, it was lovely to see them all working together in different groups and using different media to research and find information from. They were very enthusiastic to see me and engaged with the lesson, this made them very well behaved and meant that we could run through the lesson smoothly. The only problem was that some of the learners had gone on an out of school trip and meant that they weren't in their groups which impacted on the lesson slightly but due to the nature and flexibility of the jigsaw classroom this could be easily dealt with.
Cofio a Deall/ <u>Remember and Understand</u>	The lesson went very well and all children were on task throughout. The lesson was organised and resourced well. I stuck to timings accurately which meant that the lesson flowed well and that children had an ample amount of time to gather research. The children thoroughly enjoyed the lesson as feedback showed from the interview afterwards. The introduction was very concise and it worked well getting the children to guess what we were learning and kept them engaged. The only aspect of this lesson that was disappointing was that it took some time to organise the groups and then to explain the jigsaw groups. If this was an approach that was implemented in the school then it would have already been preset and

	wouldn't have had to be included in the lesson itself. This is one of the areas that would need to be developed. During the main body of the lesson all learners remained on task and were independently working in their jig saw groups to find as many facts as possible. They all cooperated well, sharing resources. I intentionally put one iPad in each group to see if the learners would share them and they did and surprisingly not all groups used them, instead using the books and fact sheets instead. During transition all learners moved quietly to their groups and went straight to their tables to start. Not children were wandering around or off task. I was very impressed as they did not fuss as they were moving from their usual groups and were in mixed ability, I had tried to mix dominant and less dominant children into groups also which meant that children with a quieter disposition would have to speak in their groups and not rely on someone from their friendship group talking for them. The resources helped learners to achieve their learning objectives and even though it took a long time to prepare all of the resources it did make a large impact on learning. If the learners had primarily used ICT then there would have been a risk of them going off task. By providing learners with a supply of information to look through meant that they were researching the intended topic in WW2. The learners responded well to the changes in routine and their behaviour was very good. Considering that there was a lot of movement in this lesson which normally doesn't happen as they stay on their tables for topic lessons the learners coped well and the movement in the classroom actually kept them more focused as the timescale to be in each group was monitored and they knew they had a specific task to do in a specific time frame. The learners stayed engaged because of this. This meant that time was not an issue in this lesson. Learning was completely driven by the children and myself and the teaching assistant spent time with each group individually to ensure they were on task and to remind them of how much time was left. This was also a good opportunity for AfL and meant that I we could ask questions to ensure that he children were meeting the learning objective.
Gwerthuso a dadansoddi/ <u>Evaluate and analyse</u>	The learners moved their learning forward by transferring the facts they found in their jigsaw groups to their original cooperation groups. This meant that the learners met the learning objective by reporting back to the group what they had found. All learners met the learning objective and I was particularly impressed with the children from the low attaining group coping with the work independently. Although, I do believe that the children from the high attainment group will need to be challenged more for the next lesson and will share this with my student colleague when planning the next session to ensure that the level of work is appropriate for all learners.

	A problem that was encountered, and was mentioned in the interview after the lesson, was that when scribing, the low attainment children struggled to keep up with the pace and vocabulary the high attainment children were using. This is another issue that must be addressed in the next session. An issue that was highlighted early in the lesson was that there were a lot of absences and due to the children being put in groups previous to the lesson it meant that some jigsaw groups only had a small amount of children in them, this will need to be taken into consideration for the next lesson. Due to the resources being prepared previous to this lesson and set up before the children entered the classroom it ensured that class environment impacted on behaviour thus impacting on learning. By being prepared meant that the children were not waiting for me to get started and set up work stations, this meant that they were engaged and didn't get bored and impacted well on their behaviour. This good behaviour meant I wasn't stopping and starting to use behaviour management and meant the lesson ran smoothly and I could show the children on the rationing table the props to show amounts. The use of success criteria was effective in this case as children could see what they needed to achieve when writing on their sheets and giving feedback in their groups and by having a laminated cut out to ensure each jigsaw group knew what they were researching. The overall success of today's lesson was that all children reached the learning objective albeit some children could have been challenged more. This session showed that jigsaw lesson can be differentiated by providing more challenging pieces of research to read.
Casgliadau a chamau gweithredu/ <u>Conclusions and actions</u>	To solve the issues in today's lesson I will differentiate the packs and in the next lesson we will try to encourage the higher attaining children to look at books and use the index pages to find the topics that are required. By doing this the lower attaining child will still feel confident enough to research independently using the fact sheets, mid attaining children will also be encouraged to use the books if suitable but can still work on more detailed fact sheets with more difficult language and the higher attaining children will be challenged as previously discussed. For the next step for this class, I would most likely ask them to make a presentation using an appropriate app on the iPad or laptop to present their findings to the class as a group. This would probably be my literacy lesson with a base around Oracy. From researching the jigsaw classroom, I would definitely use this method again. The cooperative learning worked well in this class and as they enjoyed the session the quality of their work was very good. For specific individuals: W.R – Would need to be challenged further and would require research methods with more upscaled vocabulary. I probably would give him the topic and ask him to research it as he see's appropriate so that his choice of media wasn't restricted.

	L.A- I believe L.A could also be challenged further and would now ask her to find the topic she was researching in a book and encourage her to use an index to upscale her literacy skills and vocabulary. L.L – For L.L I would try and encourage better team work and explain to L.L to be kinder to other members in his team and instill the values of being cooperative. L.L did very well researching but would go off task at some points. I would more so come back to his group and do a mini plenary to ensure that everyone is on task. What is the most important feedback gained was from W.R in which he said it took forever to give out the stickers. Understandably this would not have to be repeated again but it did take up some time. Also, in the lesson a low attaining child was the scribe for the group and couldn't keep up writing when the group were feeding back, another child commented on how slow the child was writing and they changed the scribe. Although this wasn't given as feedback it is something that needs to be brought greatly into consideration when cooperation groups take place. <u>What will you change for next lesson</u> 1) Think about organising the groups on the day, to make allowances for unexpected absences (some topics only had two pupils working on them so some of the groups couldn't complete their written task) 2) Try and speed up allocation of groups in the intro (as pointed out by WR). 3) Think about ability for the partner work in the written task. A HA child may use vocabulary which is difficult for a LA to understand and scribe correctly. 4) Think about ability of child when giving out resources. Encourage HA to use books with index listings. Give LA resource that is easier to comprehend eg. Fact sheet.
Y profiad newydd / <i>Transformed experience</i>	

Appendix 4: Participant ARC Lesson 2/School B

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

Dyddiad/Date: 28.03.18

Digwyddiad critigol (Ffocws)/Critical incident (focus): Improving pupil engagement through the use of a specific cooperative learning strategy

<i>Experience</i>	
<i>Feelings</i> <i>"What are your feelings regarding the experience?"</i>	Despite an encouraging introduction, the lesson was disappointing for this particular class, with a few children obviously quite distressed by working with certain other class members. The class is notorious for their difficulties with groupwork and unfortunately many of the children didn't cope well with the Jigsaw grouping. However, it was lovely to see some of the children succeeding with the task; they researched well and were able to record and present their information to a peer, who then annotated the picture. I felt that this lesson benefitted some of the lower attaining children who would normally not engage so well. I had, however, expected the interdependent element of the task to promote an improved feeling of responsibility among group members. The changes which we made to this lesson enhanced elements of its success (for example, the pairing of similar ability children in the written element of the task; the removal of pre-planned grouping and the quicker allocation of group stickers). However, the Lesson Model suggests that the lesson be iterated on more than one occasion which is obviously a limitation of this particular research.

Remember and Understand <i>"Can you list the aspects of the learning experience that went well?"</i> <i>"What were the elements of the learning experience that were disappointing?"</i>	• Introduction worked well. AfL through questioning established prior knowledge • Grouping went to plan despite numbers being down due to absences and children in and out • Some LA children were far more engaged than in previous tasks (CD, KM, CW) • 'Hook' was effective. Children were enthused about task (RM asked to miss his guitar lesson to stay in the lesson) • One of the case study children visibly unhappy throughout. Disappointing as he loves History and I had hoped that he would respond well to this task. Typical of his behaviour during group work however. • Most children achieved research element of success criteria but not everyone had time or felt confident enough to report back to the group • Children were slow to settle to their work. Could have benefitted from more time on this occasion
Evaluate and analyse <i>"What will you keep the same to ensure effective teaching and learning in the future?"</i> <i>"What was the cause of the most important disappointing element?"</i>	✓ Continue to use a physical or visual hook to engage the children ✓ Re-iterate the Jigsaw grouping in another context ✓ Support MAT children through pairing with a child of similar ability in certain contexts. Disappointing element of this lesson was, in the first instance, due to the introduction of a new co-operative learning strategy to a class which has historically struggled with groupwork. The timing was not ideal as it was also the last day for the class with their teacher, who leaves today. Children were particularly emotional and didn't respond well to the change, despite being pleased to see me. One of the case pupils was particularly resistant to both the group work and the subject which he was allocated to research. This had a negative effect on the class at large.

Conclusions and action <i>"What are your possible solutions to the disappointing issues identified?"</i> <i>"What will you do next?"</i>	The problems which occurred today need not necessarily be viewed as a direct result of the cooperative learning strategy employed. The behaviour from one of the case pupils (JD) seems to be representative of pupils with a less developed social skills. JD is currently undergoing assessment for ASD and the quality of his learning is continuously affected by his resistance to group work. By giving JD the opportunity to move out of his general group (in which he has been historically unhappy), it became clear that his resistance to group work is not dependent on who he is working with. His social anxieties seem to be amplified in any group context, which obviously poses a problem for this type of teaching strategy. Actions • In order to make progress with a cooperative learning technique in a mixed ability context, it is essential to look at explicit ways of teaching social skills eg. Clear explanations, teacher modelling, prompting, reinforcement etc • View Cooperative learning as a taught discipline which cannot be implemented in isolation. Find ways to integrate technique into daily context of the class • Use JD case study as a way of improving teaching and learning with specific group of learners.

Appendix 5: Lesson Plan

Canolfan Addysg Athrawon De-Orllewin Cymru  The South West Wales Centre of Teacher Education			1B
Session Plan – Key Stage 2			
Name of trainee: Kora George		Session ref: TET Lesson Study 2	
Personal target(s) in relation to QTS:			
Year group: 5	No. of learners: 24	ALN: CD/AA/CJM/SR/ AB/AP/AR/RS/RM	
Additional Adults:			
Learning objective(s): Research using a wide range of resources to develop a full understanding of a topic		Success criteria: • I can find out 3 facts about my topic • I can think of 2 things which I would like to find out about my topic • I can use a word to describe how I feel about my topic • I can tell the rest of my group what I have learned about my topic	
Links to previous learning: Isolated topic. Children have experience of cooperative learning groups but this is the first time that they have used jigsaw groups.			
Curriculum coverage (range, skills)			
<i>Literacy(LNF)</i> • contribute to group discussion, taking some responsibility for completing the task well, <i>e.g. introducing relevant ideas, summing up</i> • gather and organise information and ideas from different sources		<i>Numeracy (LNF)</i>	
<i>DCF</i> adjust keywords and search techniques to find relevant information; begin to reference sources used in their work; consider if the content is reliable,	<i>Thinking</i> Gathering information: Children to use variety of resources to find relevant information and ideas. Evaluate info in terms of relevance when reporting back to the group.	<i>ESDGC</i>	<i>YCC</i> <i>Can anybody think of a city in Wales which was particularly affected by bombs in WW2?</i>
Key vocabulary(English/Welsh):			
Evacuation, rationing, The Blitz,			
Time	Session activities, organisation and management		Key questions & Assessment for Learning opportunities
	Introduction (15 minutes) Tell children that we are going to spend an hour together as part of a research project that my partner and I are doing in Uni. Nb. See explanatory statement. Check assent.		Gain assent. Will you be happy for us to discuss this lesson with our teachers?

	Briefly set out purpose of research. Refer to the jigsaw/expert grouping. Tell children how the groups will work. Use powerpoint to support intro. So, what are we going to be learning about? Do the children want some clues? Choose children to take one item from the bag. Can they guess what our topic will be? Once children have guessed, show children the WW2 picture. What can they see? Explain that we will be working in groups to find out some more about each of the highlighted topics; The Blitz, Evacuees, Rationing, Gas masks, Bomb shelters, Women in Work. Ask children to sit in their general groups; Coch, Melyn, Oren and Gwyrdd. Nb. There are 7 children in two of the groups so move one child from two of the groups is necessary.	Assess prior knowledge: does anybody know anything about WW2?
	Main activities (30 minutes) Assign each group member a number and let them wear the appropriate sticker. Assign each new group a topic to research. Give each group a “Find out about...” card. These ‘expert’ groups can then go and work together in an area with the resources and an iPad. They need to become ‘experts’ in their topic as they will be regrouping with their general group to feed back to a partner who will be annotating a group sheet. This is a shared task – stress to the children that each of them has a role in this task; if they don’t do their individual research, the group can’t complete their task. Regroup in general groups. Children to choose someone to scribe for them. Each child to feed back their ‘expert’ information to the group. The child’s partner will annotate the document. Each child should have a turn at speaking, listening and scribing. The children should have enough information to complete their sheet. Suggest that they put facts in the boxes,	Reiterate that each child will be the only child in their original group to have researched a particular topic. Nb. Differentiate by instruction; ensuring that HA have access to more complex texts. Model the use of the Index in the books where necessary. Manage the scribe/presenter partners by ability.

	questions around the boxes and their feelings words in bubbles around the document.	
	Plenary (15 minutes) Ask for volunteers to present their topic to the class.	How did the task go? Ask for some feedback on the cooperative learning element? Can the children give their group a mark out of ten for effort? Did they enjoy working with some different children? Would the children feel comfortable working in this formation again?

Appendix 6: Focus Group Interviews/Lesson 1/School A

Focus Group Interviews (27.03.18)

School A

Interviewees: LL/LA/WR

T: What part of the lesson did you like most?

LL: I enjoyed researching the past.....especially the Horrible Histories book

LA: I liked reading and finding interesting facts...I liked that the stuff was in an envelope.

WR: I liked googling images of gas masks

T: What part of the lesson did you like least?

LL: ..don't get me started..... (he laughs)..researching the books...I prefer technology

LA: I didn't really have one

WR: It took forever to give out the stickers...took too much time

T: What difficulties did you come across in your group?

LL: A's handwriting

WR: C saying that she didn't know what she did!

LA didn't comment

How did you resolve these issues?

WR: I tried to remind them what they did – questioned them – what is this based on?

T: What do you feel pleased about?

LL: ..pleased it's ended – joking – seeing Miss Williams again!

WR: pleased that people didn't mess around and stayed doing what they should have been doing!

LA: same as WR

LL: pleased I enjoyed it – because you made it!

T: What were the things you did most to help your groups?

WR: told each person what to do..

LL: explained...

LA: we all helped each other out

T: Were you able to teach your group anything new?

WR: none of my group knew that...so I told them

LA: I was happy with what we found because nobody knew what we knew...

LL no comment

T: How did you feel about regrouping in the numbered groups?

WR: quite happy with it...don't normally talk to new people..nice hearing their view

LA: I don't normally talk to M...we had a lovely chat

LL: I don't like working with new people...felt stressed...always work with W, he's my friend, he calms me down...I prefer it when I work with him.

T: How did you think that the children in your 'expert' group worked?

LA: I liked it..

LL: Jigsaw group was nice

WR: nice change. I liked the stickers!

How do you think the lesson could be improved? What changes could we make?

WR: by sorting the Jigsaw group before we came in

LA: nothing..I really enjoyed it

LL: more people in a group; more friends to work with....

T: Tell me something that someone did to help the group?

LL: WR – because he's bossy, I would like WR as a manager

LA: Charlotte helped..she was telling people..you can do more than just one....

WR: Me – I was encouraging the others by saying "Come on..you can do this or this...."

T: And something that wasn't so helpful?

WR: C not knowing what she did

LL: A with her big handwriting

T: Do you feel you talked more, less or the same as you would do in a whole class situation?

WR: I talked the same, but more relevant talk, about the gas masks..less babble (laughing)

LA: ..the same

LL: less today

Appendix 7: Focus Group Interview/Lesson 2/School B

Focus Group Interviews (28.03.18)

School B

Interviewees: AR/JD/CD

T: What part of the lesson did you like most?

AR: I liked finding out the facts – didn't know a lot to begin with.

CD: I liked finding out facts about the Blitz.

JD: I enjoyed helping S with facts.

T: What part of the lesson did you like least?

JD: I didn't like learning about WVS – the topic wasn't one that I knew about.

AR: ..that I wasn't with AP.

CD: I liked it all.

T: What difficulties did you come across in your group?

AR: none

CD: S was saying he was never going to use paper again..

JD: not used to working with them, I didn't like it.

How did you resolve these issues?

CD: I left S alone and kept on working. He didn't get any work done.

JD: by going and working on my own.

T: What do you feel pleased about?

AR: I finished my work and got everything done.

JD: I finally got some facts down that I didn't know.

CD: I learnt a little bit more about WW2.

T: Were you able to teach your group anything new?

AR: I didn't actually teach them, well, I kind of did. I found a fact.

CD: I told C the top fact and told him to write it down.

JD: I helped S. I didn't teach my first group anything new. I went to work on my own.

How do you think the lesson could be improved? What changes could we make?

JD: If I chose my own topic – I knew nothing about women in war.

CD: I liked it, so I don't know.

AR: I didn't know much about my topic but now at least I know more about the topic. So nothing.

T: Tell me something that someone did to help the group?

AR: J found another fact for me

CD: C – helped me to chose which facts to use.

JD: I didn't see much of it as I was on my own..

T: And something that wasn't so helpful?

AR: K didn't know what to do..so I told him.

CD: S wasn't taking part.

T: Do you feel you talked more, less or the same as you would do in a whole class situation?

AR: I talked the same..

CD: I spoke about more new things but not as much about other things.

T: What do you mean new things?

CD: about WW2.

JD: I talked less to be honest.

Appendix 8: Lesson 2/Non-participant observation

Date: 28.03.18

Checklist Observer: ZW

Time scale: 60 mins

Context: Lesson Study took place in School B and lasted around 60 minutes. Three children were observed for the duration. Observations were made by a non-participant observer. Child 1 = A; Child 2 = C; Child 3 = J. Each child was representative of a different attainment group, low, mid and high respectively.

	<u>Child 3</u>	<u>Child 1</u>	<u>Child 2</u>
6. Low activity			●
7. A frequently interrupted activity			
8. Mainly continuous activity		●	
9. Continuous activity with intense moments	●		
10. Sustained intense activity			
<u>Leuven Scale*</u>			
Involvement scale level	4	3	2
Well-being scale level	4	4	1

Notes

<u>Child 3: A</u>	<u>Child 1: C</u>	<u>Child 2: J</u>
<u>Intro</u> Was engaged in the introduction and listened intently throughout the ‘Beth sy yn yr bag?’ focus. When a small group near T started discussing the World War 2 card she started to talk to friends either side of her, although when T moved to the whiteboard area Child 1 stopped talking and turned to see what was on the whiteboard. She sensibly puts on her sticker once T allocates children to their Jigsaw groups.	<u>Intro</u> Listened well in the introduction and was interested in the props T was using for clues. When T walked to the whiteboard he continued to be engaged and regularly answered questions about the rationing in great detail when T asked what the significance of the rationing photo was. He explained that his Dad was very interested in the War and went on further to explain about Hitler. When T asked what the picture regarding the	<u>Intro</u> Was engaged in the introduction and enjoyed ‘Beth sy yn yr Bag?’ He tried to guess the answer every time something was revealed from the bag, he sat smiling with his hand in the air each time. He was chosen to pick something from the bag and guessed that the subject was World War 2 and could recall that it started in 1939 and finished in 1945. T asked a question he put his hand up to answer. When T moved to the whiteboard he

A sits in her group waiting for T to set the groups off on task. <u>Jigsaw Group/ Research</u> A is sat in a corner of the classroom reading her sheets from the pack provided with the rest of her group. After a while A moves from her group to get a clipboard and a pencil, she sits back n the floor in the same spot and starts to write her facts on the blank piece of paper given to her by T. After a few minutes A has written a few facts on her sheet and can retell the facts she has found to others in her group and T. <u>Feedback/Original group</u> A goes back to her group and confidently explains what she found to her partner. They both discuss what they have learnt before writing the facts down on the sheet. A was equally as comfortable and confident in this group as she was in the previous group. <u>Plenary/Whole class feedback</u> Quietly fed back information to the T in more of a 1:1 basis and found out necessary information to discuss the topic further with her group.	bombings over London were called he holds his hand in his head and tips his head back saying he is trying to remember. Repeatedly pats the sticker on his chest when T allocates him into a Jigsaw group. <u>Jigsaw Group/ Research</u> Moves to a child in his group that has an iPad and starts to talk about the information they have found. After a while C starts talking to a child in his group about the weapons used in WW2, he talks about how his Dad said soldiers were sat in trenches and if they went over the top they would get stabbed. T walks over to the group and asks if they have found any interesting facts, Child C points to a book and starts to explain a map of Europe, he says, ‘Hitler bombed all of these countries.’ T reads a fact from a page to him and reminds him he needs to write anything interesting down for later, reminding him of the WALT. C then goes to get a clipboard to start writing notes and starts to wander around the class. He stands next to a group and tells them ‘The Blitz was when London was bombed 57 days in a row.’ He moves back to his group and starts working with the child next to him. <u>Feedback/Original group</u> Wanders around the class before T directs him to his group. He waits until its his turn and tells the group what he found clearly and confidently. He recites his facts from his notes slowly so that the child that is scribing can keep up although another child offers to write because the scribe is a slow writer and an L.A pupil. C repeats his fact	continued to watch and started moving across the carpet to watch the power point. Starts to frown when T allocates him into a Jigsaw group. As T explains the task a child in J’s group shouts that J doesn’t want to be in that (Jigsaw) group. <u>Jigsaw Group/ Research</u> J sat away from his group and wouldn’t look at any of his sheets when the children in his group offered them to him. He says ‘Why can’t we be doing something else.’ T walks over and gives him a sheet from his pack to look at. After T leaves he starts to move away from his group and edges towards a group in which his friend is a participant. T notices that J has moved away from the group and gives him a book to look at, he starts looking through the pages and when T leaves puts it to the side and continues to watch a child research on the iPad from the next group. He lifts his head up and sits looking at the ceiling with his arms crossed, he is disengaged with the activity. Class Teacher see’s that J has become disengaged and sits next to him reading pages from a book, J starts to cry and tells the Class Teacher that he doesn’t want to look at Women in War. After he has calmed down the Class Teacher moves away to look at another group, J tells his friend in another group that he can’t do it and drops the book the Class Teacher has given him on the floor. T asks him if he has written any facts yet and he says no and picks up a Horrible Histories book. He moves to sit on his own until he completes the task. He tells T and she says he can choose a group to
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	again for the new scribe to take over. It was visibly clear that C was just as happy in this group as the previous one. <u>Plenary/Whole class feedback</u> Reported back to the class a few facts that he found that were very interesting. He was obviously very engaged with the topic and enjoyed the overall topic of WW2.	help for the last 5 minutes of the research time. <u>Feedback/Original group</u> J refuses to work with his group and won't sit by them. He is visibly uncomfortable in this group and will not make eye contact with any of its members whilst sitting a small distance away from them. When he sees that T is observing another group, he walks over and asks can he apologise to another child. T deals with a prior incident and by the time it is resolved feedback time is over and it is time for the Plenary. <u>Plenary/Whole class feedback</u> Read quietly back to the class some of the facts he found. He found interesting facts but showed that he wasn't interested in the subject at all.
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