

ASSIGNMENT DETAILS AND FEEDBACK

SOUTH WEST WALES CENTRE FOR TEACHER EDUCATION

*Sections marked with * should be completed by module lead*

Student name:	Amy Williams	Student P number:	1701094
Programme: *	PGCE Primary		
Module: *	The Enquiring Teacher	Module Level (6 or 7):*	7
Module code: *	M7X2152	Contribution to Overall Module Assessment (%): *	100%
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
			NO ✓

Learning Outcomes tested (from module syllabus)	Assessment Criteria: To achieve each outcome a student must demonstrate the ability to:
•Design and apply appropriate research methodologies demonstrating a critical understanding of the nature of educational research •Conduct a small scale research enquiry to improve an aspect of personal practice and learner outcomes, showing some originality and rigour in the application of appropriate research skills •Critically evaluate research evidence, showing sound judgement of complex data to support pedagogic decisions •Critically reflect upon the importance of ethical procedures within classroom based research, and apply these procedures appropriately	• Discuss the intended professional data collection justifying its suitability and purpose; • Support the study by referring to a range of relevant literature; • Integrate theory and practice with regard to the pedagogic context; • Undertake a critical evaluation of the study; • Discuss the ethical issues that should be considered during the study • Write a well-structured piece of work in a coherent writing style

TASK DESCRIPTION

Write a critical and analytical essay that discusses your practitioner research 'lesson study' in relation to a chosen field.

This should be 6000 words in length.

Further details regarding the structure of the work will be available on Moodle.

You will also be required to submit an Ethics Form as part of the assessment of this module. This will be submitted on the 28th February.

GUIDANCE FOR STUDENTS IN THE COMPLETION OF TASKS

NOTE: The guidance offered below is linked to the assessment criteria overleaf.

1. Subject Knowledge and Understanding (which includes using research-informed literature and knowledge and understanding of the subject)

Your work must be informed and supported by scholarly material that is *relevant* to and *focused* on the task(s) set. You should provide evidence that you have accessed a wide *range* of sources, which may be academic and/or governmental; these sources may include academic journal articles, textbooks, current news articles, organisational documents, and websites. You should consider the *credibility* of your sources; academic journals are normally highly credible sources while websites require careful consideration/selection and should be used sparingly. Any sources you use should be current and up-to-date, mostly published within the last five years or so, though seminal/important works in the field may be older. You must provide *evidence* of your research/own reading throughout your work, using in-text citations in the main body of your work and a reference list that is alphabetical at the end of your work. Please use the Harvard referencing system.

Your work must demonstrate the growing extent of your knowledge and understanding of concepts and underlying principles associated with the subject area. *Knowledge* relates to the facts, information and skills you have acquired through your learning. You demonstrate your *understanding* by interpreting the meaning of the facts and information (knowledge). This means that you need to select and include in your work the concepts, techniques, models, theories, etc. appropriate to the task(s) set. You should be able to explain the theories, concepts, etc. meaningfully to show your understanding. Your mark/grade will also depend upon the *extent* to which you demonstrate your knowledge and understanding; ideally each should be complete and detailed, with comprehensive coverage.

2. Intellectual Skills (Analysis)

Your work must contain evidence of logical, analytical thinking, evaluation and synthesis. For example, to examine and break information down into parts, make inferences, compile, compare and contrast information. This means not just describing what! But also justifying: Why? How? When? Who? Where? At all times, you must provide justification for your arguments and judgements. Evidence that you have reflected upon the ideas of others within the subject area is crucial to you providing a reasoned and informed debate within your work. Furthermore, you should provide evidence that you are able to make sound judgements and convincing arguments using data and concepts. Sound, valid conclusions are necessary and must be derived from the content of your work. There should be no new information presented within your conclusion. Where relevant, alternative solutions and recommendations may be proposed.

3. Pedagogic and Professional Applications (Practical Application and Deployment)

You should be able to demonstrate how the subject-related concepts and ideas relate to pedagogic situations or a particular education context. How do they work in practice? You will deploy models, methods, techniques, and/or theories, in that context, to assess current situations, perhaps to formulate plans or solutions to solve problems, some of which may be innovative and creative. This is likely to involve, for instance, the use of pedagogic examples and cases, the application of a model within relevant educational context. You should show awareness of the limitations of concepts and theories when applied in particular educational contexts. Your work must provide evidence of the attributes expected in professional practice. This includes demonstrating your individual initiative and/or collaborative working. Where relevant, you should show awareness of any ethical issues that relate to your discussion.

4. Key Transferable Skills (Skills for Professional Practice)

You must communicate effectively in a suitable format, which includes written and oral presentation. Work should be coherent and well structured in presentation and organisation.

MARKING CRITERIA AND STUDENT FEEDBACK

This section details the assessment criteria. The *extent* to which these are demonstrated by you determines your mark. The marks available for each criterion are shown. Lecturers will use the space provided to comment on the achievement of the task(s), including those areas in which you have performed well and areas that would benefit from development/improvement.

Common Assessment Criteria Applied	Grade awarded
1. Subject Knowledge and Understanding (which includes using research-informed literature and knowledge and understanding of the subject) Extent of research and/or own reading, selection of credible sources, application of appropriate referencing conventions. Extent of knowledge and understanding of concepts and underlying principles associated with the discipline.	
2. Intellectual Skills (Analysis) Analysis, evaluation and synthesis; logic, argument and judgement; analytical reflection; organisation of ideas and evidence	
3. Pedagogic and Professional Applications (Practical Application and Deployment) Deployment of pedagogic methods, materials, tools and techniques; application of concepts; formulation of innovative and creative solutions to solve problems. Attributes in professional practice: individual and collaborative working	
4. Key Transferable Skills Deployment of appropriate media; presentation and organisation.	

Assignment Grade (Assessment grades are subject to ratification at the Exam)					Late Submission Penalties (tick if appropriate)	
Level 7	Assessment Criteria Descriptors for Primary PGCE with QTS This format emphasizes the holistic nature of judgements to be made by markers. Equal weighting is given to each section. Plagiarism or non-submission will result in F (0%) grading.					
Assessment Criteria	Fail - grade E	Weak pass- grade D	Pass – grade C	Pass – grade B	Pass – grade A	
	Poor	Weak Pass	Satisfactory	Good	Excellent	
Overall judgement	Poor understanding, unsystematic, incomplete and/or inaccurate	Understanding of main issues demonstrated	Satisfactory understanding demonstrated with satisfactory analysis	Good understanding of basic principles and relevant evidence, with a coherent and logical argument	Highly thoughtful answer informed by wider reading, showing clarity of thought, personal insight and some originality	
Subject Knowledge and Understanding (Conceptual)	Basic misunderstanding, misconceptions, or misinterpretations - Some superficial knowledge in places	Main concepts understood with limited evidence of critical insight	Sound understanding of concepts and critical engagement with ideas	Good understanding of key concepts; knowledge of wider implications; critical engagement	Engaged critically and systematically with the main concepts and theories: excellent engagement	
	(Reading)	Poor and/or inappropriate literature, lacking accuracy, unsound, limited/dated range of sources	Satisfactory range of reading overall although this may be limited in some way	Satisfactory range of reading drawn from the recommended list and other sources	Good range of relevant literature from a variety of sources beyond recommended list	Clear evidence of independent thinking informed by a selective range of reading from a variety of sources
Intellectual skills (argument)	Little sense of an argument lacks coherence. Generally descriptive or anecdotal	Argument is balanced with some differing viewpoints presented. Some questioning of assumptions	Argument presented shows satisfactory evidence of critical and analytical reflection.	Strong argument developed. Good evidence of critical and analytical reflection	A well-structured critical argument is presented with evidence of synthesis of viewpoints	
(professional data collection: research design/data collection)	Professional data collection is inappropriate/ flawed /not discussed	<i>Professional data collection is mainly suited to purposed; beginnings of critical considerations</i>	<i>Professional data collection is suited to purpose and considered critically.</i>	Professional data collection well suited to purpose, justified with clear identified focus	Professional data collection logical and sophisticated; comprehensive understanding of appropriate techniques	
(presentation of findings/analysis)	Findings presented with little or no framework or discussion; or discussion of findings is descriptive. Few conclusions are drawn or conclusions drawn are inappropriate.	Findings are presented with basic analysis and some limited but appropriate conclusions	Findings presented with some analysis and criticality with justified conclusions	Findings presented in a critical and analytical framework. Thoughtful conclusions, firmly based upon the evidence presented	Findings presented in a critical and analytical framework. Insightful conclusions, firmly based upon the evidence presented	
(critical /reflective evaluation)	Little or no evaluation attempted; no or limited reflection	Evaluation and reflection is present but may be limited	Satisfactory critical evaluation of study; satisfactory reflection	Good critical evaluation of study; good reflection	Critically reflective evaluation of work informed by excellent reflection.	
Pedagogic and Professional applications (linking theory to practice)	Little or no evidence of engagement or superficial engagement and understanding with respect to the pedagogic and professional context(s)	Some engagement and understanding with respect to the pedagogic and professional context(s)	Sound engagement and understanding with respect to the pedagogic and professional context(s)	Good evidence of integration of theory and practice with respect to the pedagogic and professional context(s)	Excellent integration of theory and practice with respect to the pedagogic and professional context(s)	
(professional reflection)	No evidence of reflection	<i>Some evidence of reflection whilst beginning to make links with own practice and thinking</i>	<i>Satisfactory evidence of critical reflection whilst beginning to make links with own practice and thinking</i>	<i>Good evidence of critical reflection whilst making links with own practice and thinking</i>	Demonstrates an excellent level of understanding of critical reflection as a learning process	
(working in a group)	<i>Inability to work with others or works within a group but lacks self direction or group responsibility</i>	<i>Responsibility for planning and developing courses of action; shows awareness of group responsibility</i>	<i>Initiates and occasionally leads tasks/processes for own work and where appropriate for others.</i>	<i>Chooses goals and can self-direct; able to co-operate within a group and can take the lead</i>	<i>Accepts accountability for determining and achieving personal and/or group outcomes</i>	
(ethical conduct where appropriate)	Ethical issues not or superficially considered	Some awareness of ethical issues	Appropriate ethical issues raised and discussed; bias/prejudice not noted	Good, clear understanding of ethical issues; awareness of bias and prejudice	Ethical issues have been addressed effectively; bias/ prejudice discussion includes attempts to nullify this	
Key/Transferable Skills (presentation)	Poor presentation of written work	Presentation of written work is weak	Satisfactory presentation of written work	Good presentation of written work	Excellent presentation of written work	
(spelling, punctuation and grammar)	Significant errors in spelling, punctuation or grammar	Some errors in spelling, punctuation or grammar	Spelling, punctuation and grammar are satisfactory; few errors in written language	Spelling, grammar and punctuation are good; very few errors in written language	Excellent standard of written language. No or very minor errors in written language	
(structure)	Poor structure with unclear writing style	Structure is present but may be underdeveloped, writing style is mostly coherent	Satisfactory structure with coherent writing style	Good structure with a coherent writing style	Effective structure and highly coherent writing style which fully engages the reader	
(referencing techniques)	No use or limited use of protocols and conventions including Harvard referencing	Some following of protocol and conventions of Harvard referencing	Satisfactory use of Harvard referencing protocols and conventions	Good use of Harvard referencing protocols and conventions	Harvard system used accurately, consistently and effectively with all sources	

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 feel I collaborate well as a group and am happy with the improvement I have made with my academic writing.	I am still striving to improve my research strategies and planning of assignments.

Student's Name	Amy Williams	Date	22.4.18
Student's Signature	Amy Williams		

How to improve pupil engagement through a group activity in a Key Stage 2
classroom

Module Title: The Enquiring Teacher

Module Code: ECPP7001

Word count

7127

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Abstract

This research study was devised to analyse the effects on pupil engagement whilst engaging with group work activities, in an attempt to improve engagement, collaboration and confidence in learning. The focus on developing group work skills of primary aged pupils is becoming more emphasised with Donaldson's new curriculum for Wales coming into effect. The purpose for this research was to discover whether children's engagement with learning was improved through a group problem-solving task. Based on previous experience and three trainee teachers, the researchers of this study concluded that engagement in learning, self confidence and the ability to collaborate was lesser developed in many Key Stage 2 (KS2) pupils. All researchers participated in lesson study by collaboratively planning lessons, observing pupils, teaching and interviewing a focus group of three pupils, to gather evidence and analyse whether pupil engagement with learning was more effective during group work activities. After completion of three research lessons where the focus was a problem based group work activity, it was apparent that pupils are more engaged when they work within a group (Attle & Baker, 2007). Amendments to the lesson study were made throughout the process using observations and pupil feedback from informal interviews. An improvement of engagement with learning was achieved for most pupils, however further research is needed to explore alternative ways of using group work to encourage engagement with all.

Aim, Focus and Purpose of Research

A key focus of my PTE 1 (PTE1.2) was to develop collaborative learning skills across KS2. Throughout my practice, I used activities that focused on the concept of teamwork in the classroom. Although this was an engaging and interactive way of delivering the learning outcomes, the effectiveness of pupil understanding did vary. This variance seemed to occur due to a change of variables in the classroom e.g. pupil ability and personality. All researchers involved felt that collaborative learning was an area lacking attention in their PTE 1.2 classes. We believed that this was an important area to address as it develops key social and academic skills (Gilles, 2015). We all planned and taught group activities in lessons developing our interest and research focus of gaining a deeper understanding of how effective these types of activities are. This helped us to develop the purpose of our research study; how to improve pupil engagement through group work in a KS2 classroom.

The aim of this observation is to undertake in a lesson study (LS) to research the implications of group work. It is hoped that using the research findings, strategies can be implemented in the classroom using group work to improve all pupils understanding of learning outcomes. Peter Dudley (2015) states that LS is the most highly effective research method in providing practitioners with their professional development. Pupil engagement during the activity will be recorded using a scoring system based on Professor Ferre Laevers' Leuven Scale of Involvement (LSI) (1994) (See Appendix A) with pupil engagement being measured and given a score between 1 and 5.

This research will connect current ideas in literature to the upcoming curriculum for Wales thus informing future teaching. This LS enables educators to gain a deeper understanding of the relationship between pupils and the learning task.

Research Setting Context

The LS was conducted over three days at the end of school term 2 in a KS2 classroom in three primary schools in South Wales, under different local authorities.

The first LS took place in a large, voluntary aided, Church in Wales school, located in the centre of an urban town (Estyn, 2017). 17% of pupils are entitled to free school meals (FSM), 12% are recognised as having additional learning needs (ALN). Very few pupils have English as an additional language (EAL) (Estyn, 2017). In this school, the LS was conducted in a year 3 class of 28 pupils with an equal mix of boys and girls. The class was of mixed ability with a small percentage recognised as having ALN. There was no support staff member allocated to the class.

The second school visited is located in a Communities First designated area, on a large housing estate on the outskirts of a city centre (Estyn, 2017). More than 50% of pupils are entitled to FSM (Estyn, 2017). The school identifies around 67% as having ALN (Estyn, 2017). Around 20% of pupils have EAL (Estyn, 2017). The LS was held in a year 5 class of 30 pupils. 18 of these pupils were recognised as having ALN. One support staff member supported the class teacher. The children were grouped into six groups based on ability level for all subject areas.

The final school visited was newly built on the outskirts of a small town (Estyn, 2015). More than 50% of pupils are eligible for FSM (Estyn, 2015). 26% of pupils are identified as having ALN. The LS took place in a mixed year 5/6 class of 30 pupils. Three of these pupils were recognised as having ALN. There was one support staff member to assist the class teacher during the numeracy lessons. The class was grouped into four groups based on ability levels for all subject areas.

Relevant Literature

Professor Graham Donaldson's (2015) new welsh curriculum promotes the development of independent learners and team members. Donaldson (2015) emphasises the need for children to attain collaborative skills whilst at school, in order for them to become ethically informed citizens, who can contribute to situations in their adult lives. He states that valuable teaching allows for pupils to collaborate, thereby developing their ability to work purposefully as part of a team.

Donaldson's idea stems from John Hattie's evidence of research. Hattie emphasises the benefits of group work on pupil motivation, thinking skills and learning attainment (Donaldson, 2015). Hattie (2012) argues pupils must be taught to self regulate and take ownership of their own learning. As a consequence, pupils become teachers of learning through collaborative work and peer tutoring, based on the theory by Lev Vygotsky (1978). Vygotsky believed that through collaboration and tutoring, pupils are able to develop their skills further (Vygotsky 1978). This form of learning is however of maximum benefit once the children have attained the necessary "surface knowledge" to enable them to contribute valuable information and skills to their peers (Hattie, 2012).

Another researcher of cooperative learning is Robert Marzano. According to Marzano's, teachers should have high expectations for student engagement and communication across the classroom (Room 241 Team, 2012). Through this pupils acquire greater ownership of their learning and as a result a better understanding (Appleton, 2008). Furthering Marzano's research, he found that an effective teacher makes a conscious effort to identify all pupils needs, ensuring all pupils show a high level of engagement and communication (NRE, 2005). A key strategy suggested by Marzano to enable teacher's to achieve this is cooperative learning (NRE, 2005). The benefits of cooperative learning include pupil achievement and attitudes towards learning (Marzano et al, 2003). These positive outcomes are commonly a result of increased interaction between pupils and their learning (Marzano et al, 2003).

Both Hattie and Marzano's ideas on cooperative learning are analysed in Shaun Killian's (2015) article, reflecting on a number of strategies that these theorists believe are beneficial. The article highlights that by adopting an element of competition between working groups, children's learning is increased (Killian, 2015), however, this needs to be monitored by the adult to ensure the children behave appropriately. In conclusion both Hattie and Marzano agree with keeping groups small to ensure effective learning is taking place. Hattie and Marzano also agree that whilst group work has proven to be beneficial to pupils learning, it should not replace individual tasks (Killian, 2015). Whilst teamwork is a key skill for pupils to develop, children need individual feedback (Killian, 2015). Before participating in cooperative learning, pupils need to be taught how to work effectively in groups in order to attain maximum learning (Killian 2015).

Current research suggests that learner engagement is a voluntary act, an idea presented in 1899 of sustained voluntary attention (Wankle and Blessinger, 2013). Jackson and McDermott (2012) express that through participation, pupils' learning is increased alongside pupil morale, thus encouraging further engagement.

David Johnson and Roger Johnson (2004), researchers for cooperative learning, recognise that modern times require more cooperative work than independent. Through conducting interviews they claim teamwork is a main element of success in adult life. Despite this research, schools choose to focus primarily on individual learning, without leaving time to engage the benefits of cooperative learning (Johnson & Johnson, 2004). Johnson and Johnson believe that in order to reflect the working world, schools should aim to promote group work throughout the school day (2004). As already noted by Marzano, group work has proved to have greater effect on pupils' ability to retain information and their motivation to learn than independent activities (Johnson & Johnson, 2004).

From analysing the current literature, it is evident that group work and cooperative learning provide benefits to learning attainment. Therefore, after considering the current research, it is empirical that our lesson study is planned to encourage effective communication between pupil groups, with minimal adult input to acquire quality evidence.

Lesson Study Design and Methodology

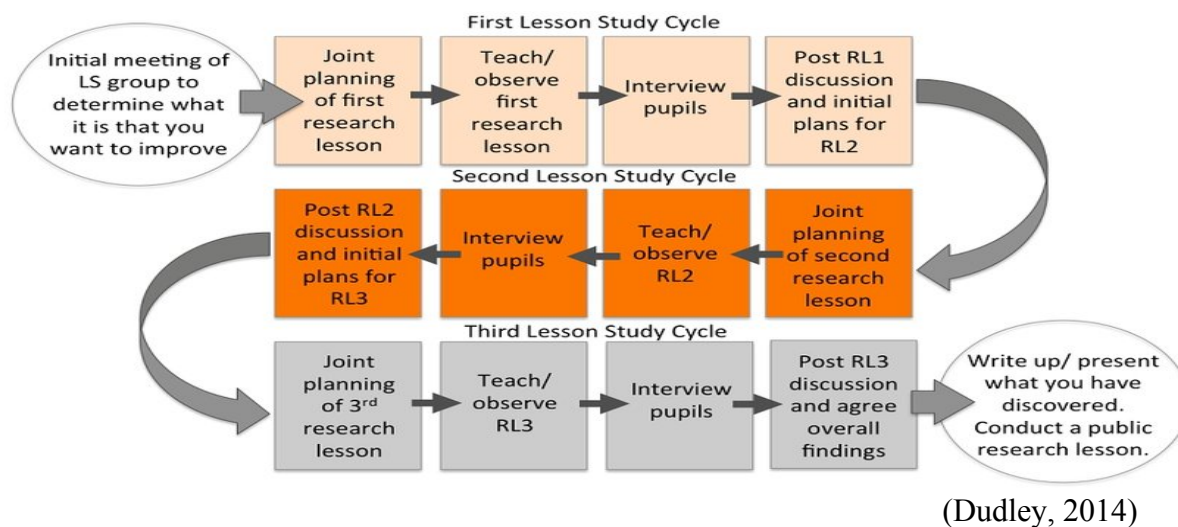
To enable us to gather evidence around whether or not pupil engagement can be improved through group work activities, we need to engage a number of methods. These methods will

allow us to gather quality observational evidence and feedback from pupils. The LS will be conducted in the participants' classrooms. By observing pupils in their familiar environment, the observers are able to get the best representation of the child's abilities (Saracho, 2015).

The principle research method used will be LS initiated in the UK by Pete Dudley (DfE, 2009). This action research is stimulated by an educational question or challenge presented within the classroom. This research allows for reflection on teaching with strategies that aim to offer improvements (English Agenda, 2018).

The roots of LS date back to the early 1900's (Nakatome, 1984 cited in Fernandez & Yoshida, 2009) where it was implemented to help schools keep up with modernised teaching (Wood & Sithamparam, 2015). As the process developed, an emphasis was placed on teachers planning their lessons (Wood & Sithamparam, 2015). While LS is thought to be time consuming, teachers in Japan find the research to be of great benefit to discovering strengths and weaknesses, to help inform their future practice (Nakamura et al, 1989 cited in Fernandez & Yoshida, 2009). LS was successfully introduced into the UK by Pete Dudley (DfE, 2009). Dudley developed this method to improve teaching and pupil attainment (DfE, 2009). Fernandez & Yoshida (2009) organised the LS process into six steps (See Appendix B).

The LS will involve three cohorts of KS2 pupils. A focus will be agreed by the researchers and planned collaboratively. The researchers will follow the process as previously described in Appendix B by Fernandez and Yoshida (2009), and supported by Dudley (2014), as shown in the cycle below.



As the cycle shows, our research will be analysed over three lessons (Dudley, 2014). Following the LS method, we will analyse the research through observing, reviewing and making appropriate amendments to improve learning (Fernandez and Yoshida 2009). Similar to practitioners in Japan, Dudley (2014) is in favour of all schools adopting this method to continue professional development. Conversely, Dudley (2014) identifies that some schools practicing the LS are performing it ineffectively, he stresses the emphasis should be placed on the structure of the LS for maximum benefits to be attained. Our lessons have been collaboratively planned (See Appendix C) with flexibility to make amendments based on feedback gathered from the informal interviews (See Appendix D, E & F).

To gather a broader range of evidence, LS is usually taught to two cohorts by different teachers (Fernandez & Yoshida, 2009). Fernandez and Yoshida (2009) state that it is uncommon for LS to be taught to a third cohort, as there is more benefit to developing a new study than to keep revisiting the same plan. Similarly, our LS will be taught to different cohorts, however, for this research, three different year groups will be observed. Our study will analyse the engagement of

18 year 3, 30 year 5 and 30 mixed year 5/6 pupils. Each researcher will select three focus pupils from their PTE1.2 class to be observed. They will be of mixed gender, ability and confidence levels, research evidence is benefitted when a range of pupils are selected for observation. Christine McIntyre (2000) believes is the fairest way to measure the effect of the implemented strategy, however it must be noted the different outcomes expected from each child. Considering this, each teacher will make predictions before delivering the lesson to their class.

The observers will focus on pupil engagement during the group work, making note of their contribution to the group. Following the teaching of the lesson the three focus children will be asked to give written assent to participate in an informal, interview. As cited by the Association of Teachers and Lecturers (2008), Ruddock (2004) recognises pupil and teacher conversations to be the key to pupil participation. Through an informal interview with the pupils, researchers will gather evidence and feedback on how pupils believe their learning can be further developed. Amendments to plans will be made after analysing the data collected. After conducting all three lessons, the researchers will determine what effect group work has on pupil engagement.

Observations will be recorded through note taking. This allows the observer to be physically disengaged from the activity and aims to cause minimal distress to the participating cohort (Sensing, 2011). Observing pupils allows teachers to gain an understanding of the holistic child (Noble, 2002). Although, Tim Sensing (2011) acknowledges the presence of an observer will have an effect on the pupil's behaviour. This should be reflected upon when analysing data (Sensing, 2011).

Informal interviews will be recorded using a voice recorder to capture the feedback of pupils. The questions asked will be tailored to gathering pupils' opinions on their learning. We will try to encourage expanded answers guarding against asking leading questions to gather a true representation of the pupils' thoughts. Carmel Conn (2016) identifies the way in which questions are presented to children has an influence on the child's response.

Our LS will focus on observing the effect of group work on pupil engagement and learning outcomes. The observations made will be analysed against the guidelines set out by the LSI (Laevers, 1994) and the pupils will be given an engagement rating between 1 (low engagement levels) and 5 (high engagement levels). This scale has been chosen as it focuses on pupil engagement and provides us with a baseline to follow and key responses to be cognisant of. Laevers and Heylen (2003) state that engagement in an activity only happens when the task is at the appropriate capability levels of the participants. Involvement in an activity is vital for learning to occur (Plymouth City Council, 2011). The LSI allows teachers to measure their pupils' levels of involvement, thus using this data to inform future planning (Plymouth City Council, 2011). Plymouth City Council (2011) recognise that children's levels of engagement may fluctuate throughout the observation period, this does however enable the teacher to assess where the deepest levels of learning are taking place. This will be measured at a level 4/5 (Plymouth City Council, 2011). In contrast to this, Laevers (2015) argues that a child's involvement level is often static.

The focus of the lessons will be problem-solving activities, which aim to engage pupils. It is hoped that pupils will collaborate and discuss potential outcomes, whilst engaging with their own learning. Pupils will be expected to work together to come to final conclusions. All pupils

will be expected to give a reason for their answer. The activity will aim to provide pupils with collaboration opportunities, allowing the children to learn from their peers, thereby enhancing engagement through discussion. The pupils' levels of engagement will be measured against the LSI by the non-participant observers.

Our research process will allow us to gather evidence on pupils of varying ages across KS2. It enables us to make observations as non-bias and non-participant observers, where we can focus closely on pupil response and engagement without the distractions and other demands that come with teaching a lesson. LS is recognised for its success in enabling researchers to develop their teaching methods and subject knowledge, thus leading to greater pupil attainment (Stigler & Hiebert, 1999 cited in Dudley 2015). Through this method teachers are able to gain an insight into the learning of their pupils. They are able to compare their predictions against actual learning that is taking place and observe this in detail (Dudley, 2011 cited in Dudley, 2015). Conversely, some practitioners comment that after conducting the LS there was no improvement on pupils' attainment levels by increased observations (Research Schools Network, 2017). As previously mentioned by Dudley (2014) the main limitations connected with LS in the UK occur due to the method being incorrectly used.

Ethical Considerations

Due to the nature of the research it was important to adhere to ethical guidelines set by the British Education Research Association (BERA) (2011) and the Research Ethics and Integrity Code of Practice (University of Wales Trinity St David (UWTSD), 2017-2020). In accordance with BERA (2011), to ensure anonymity of participants and confidentiality, no names of pupils,

staff or schools were used at any time throughout this assignment. Pupils are not identifiable on any document relating to this research and all of the data collected was kept under the guidelines of the Data Protection Act (1998) and was not shared publically. The data was stored on a password protected memory stick, which only the researchers had access to.

Before conducting the research activity a range of methods was considered by the researchers. Only those deemed “fit for purpose” were used throughout the process (BERA, 2011). An ethical form was completed by each researcher and put forward to the schools involved and the university for signed approval. To ensure parents and guardians were aware of the research and for agreed consent of their child’s participation, an explanatory letter was written by the university. Those who did not return the letter were not used in the research. Prior to each LS the purpose of the research was explained verbally to the children and they were requested to give additional assent to being involved in the research process. In addition to this, written assent was requested from the three focus children (See Appendix M). Those who refused to participate in the research did so without any adverse consequences (UWTSD, 2017-2020). The children were made aware that they had the right to opt out of the research at any time or refuse to answer any questions without having to give reason.

To ensure safeguarding, the researchers abode by the policies of the university and all schools involved. The children’s right to openly express their views and opinions was respected (BERA, 2011). All steps were taken to ensure the safety and well being of the children to reduce any feelings of intrusion (BERA, 2011). To help make the children feel safe and comfortable, the lesson studies were conducted in the children’s classrooms.

Lesson Studies and Analysis

Researchers agreed to teach a Personal and Social Education (PSE) lesson incorporating Literacy and Numeracy skills across the curriculum, considering guidelines from Donaldson's Successful Futures (2015) (See Appendix C). The learning objective (LO) was to collaborate in pre-arranged groups and problem solve using clues given by the teacher. The activity included gathering clues and matching them to a prepared biography of potential suspects for a crime. These clues were differentiated to suit the cohort and the lessons were adapted based on the researcher's knowledge of their class. The focus of the observation took place during the main task, where the pupils engaged in a problem solving, group work activity. Researchers selected three focus pupils of different gender, ability and confidence levels, from their class to be observed.

It was agreed that I would teach the first research lesson to my PTE1.2 class, whilst my colleagues observed the pupil's level of engagement. We analysed the data with the pupil responses from the focus interviews and made amendments to how we grouped the pupils in the next cohort. My colleague then taught the adapted research lesson to her PTE1.2 class, whilst myself and my other colleague observed, the process was repeated for a third time. The data was then collected and collaboratively analysed.

Lesson Study 1 and Analysis

The first cohort consisted of 18 year 3 pupils. For the purpose of the research the three focus children will be labelled as follows; PS – female, more able and talented (MAT) previously displaying high confidence levels; PN – female, EAL, middle ability level (MA) previously

displaying low confidence level; PI – male, ALN (global delay), lower ability (LA) previously displaying low to mid confidence levels.

To begin, a letter was read explaining the focus task, the success criteria (SC) and LO. The cohort was divided into mixed ability groups of 5-6 pupils. It was agreed that the SC would be applicable to all pupils. The University of California (2017) found that providing pupils with the LO and SC allowed students to take a greater ownership of their learning. The pupils were familiar with cooperative learning as this is a skill they had been developing since the beginning of term. The children were used to working with different peers, so mixing the groups was not uncommon practice. Nevertheless, it was still important to remind the children of the basic skills involved with group work.

As an overview, the lesson was successful in terms of the pupils learning. Most pupils remained on task for the duration of the lesson and engaged with the activity, whilst collaborating effectively. Pupils were able to apply their prior knowledge of skills to assist their group.

As predicted (See Appendix G), PS was observed as completely engaged throughout the activity, displaying an engagement level 4-5 as measured against the LSI (See Appendix J). It was noted that PS engaged with other pupils, taking a self appointed lead role, asking the other group members questions that motivated them to give their opinions.

It was predicted that PN would engage with the activity and attempt to give verbal contribution to the group (See Appendix G). PN's level of engagement was measured at a majority level 2 against the LSI (See Appendix J). PN's engagement measured as a 3 during the lesson

introduction, however once the group activity began their level of engagement dropped staying static at a 2. PN showed physical engagement with the resources, but made no valuable contribution to the group. PN allowed PS to take control but would not help when requested to do so by their peers. When questioned during the lesson conclusion, PN struggled to communicate the final answer collaboratively agreed on by the group.

Laevers (1994) claims that a child's level of engagement is often relatively static throughout the activity, this however, was not true for PI (See Appendix J) PI's level of engagement fluctuated between a level 1-4 when measured against the LSI and the observations made were highly contrasted. As predicted, PI struggled to engage with the written resources linked to the activity, but was eager to verbally discuss the subject matter, however not all contributions were accepted by the group (See Appendix G). This behaviour from the group resulted in PI taking a disinterest and a decline in their engagement levels.

The focus pupils were asked to participate in an informal group interview (See Appendix D). All pupils agreed at having enjoyed the lesson and found benefits from working in a group. PS commented that working in a group allowed them to "listen to people's different perspectives [and it helps you] learn in another way". Having strategically grouped PS and PN together for the LS, it was interesting that whilst PS felt they listened well, PN felt they did not get much opportunity to speak. This was considered when analysing the pupils' responses as a disadvantage to organising pupils into mixed ability groups and influenced our decision to group the next cohort by ability. When asked their preference on group size, both PN and PS answered "smaller". PS felt a smaller group would eliminate the clash of "bossy" characters within the class, whilst PN felt that in a bigger group they could not always hear "what people are saying".

In contrast to the other focus pupils, PI felt that a bigger group allowed for more ideas to be shared. During the interview both PI and PN gave limited responses, however as it progressed they expanded their answers by giving reasons for their feelings. Samantha Punch (2002) argues that research with children is of no difference to research with adults. She emphasises the importance of building a rapport with participants so they feel comfortable giving detailed explanations during an interview.

The final process of the first lesson research was to analyse the data collected. During this task it was apparent that the less able pupils were supported by their more able peers. However, these pupils tended to dominate the discussion, leaving the less able pupils disengaged. This finding, along with pupil feedback, encouraged us to change the way in which we grouped the pupils for the second lesson. It was agreed to group the children based on ability. Another question asked during the analysis of data was, 'did the children alter their behaviour because the non participant observers were static in where they sat, in close proximity?' This, we decided to change by having the observers 'float' around the classroom. We agreed to keep the implementation of clues with no obvious answer. The pupils enjoyed collaborating over which superhero they believed the clue belonged to. As researchers we agreed these clues aided the discussion between the pupils.

Lesson Study 2 and Analysis

This LS was conducted in a school located in an area on the outskirts of the city centre. The participants were 30 year 5 pupils. For the purpose of the research the children will be labelled as follows; PE – female, HA previously displaying high confidence levels, PM – male, MA,

previously displaying high confidence levels. PN – female, EAL, LA, previously displaying low confidence levels.

My colleague taught the lesson whilst myself and my other colleague observed. As agreed, after the analysis of the first lesson the groups were organised by ability levels of 4 – 6 pupils. The pupils were given a similar activity to the first cohort with an addition to complete an exercise in pairs, before conversing in larger groups. This was done to incorporate feedback from the previous pupils. This cohort was given a similar LO and SC to the first, emphasising the skills needed for effective teamwork. The lesson was slightly differentiated from the first to match the ability levels of the new cohort (Kerry & Kerry, 1997).

As predicted, most pupils were engaged with the activity and the majority of groups came to a collaborative final decision (See Appendix H). Some conflict was displayed, resulting in refusal to participate where the teacher had to intervene. This cohort was observed to engage better with their learning when working in pairs as opposed to larger groups (See Appendix K).

It was predicted that PE would engage in discussion and take a lead role in the collaboration process (See Appendix H). Although this was the predicted outcome, the child was measured between levels 1-3 against the LSI (See Appendix K). PE showed the highest level of engagement during the paired activity, but disengaged when working in a larger group of 6. It was predicted that PE may show periods of disengagement if the work was perceived as too easy (Ravet, 2007).

As predicted, PM took control over the group discussion (See Appendix H & J). PM was observed collaborating effectively with the rest of the group and was measured between level 3-5 against the LSI. As the activity progressed PM's levels of engagement declined. Binder et al (1990) state that a child may become disengaged if they perceive the activity to be too long. PM displayed periods of distraction by other members of the class and began engaging in off topic conversations.

It was predicted that PN may attempt to verbally engage with the group, but would lack the confidence levels required to succeed. In addition to this, the prediction stated that PN would disengage with the activity should their opinions be disregarded by the rest of the group. In contrast to the statement made by Laevers (1994) on a pupils' engagement level remaining static through the observed period, PN displayed levels of engagement between 1-4. The observations made on PN varied between the two non-participant observers. In contrast to the prediction PN displayed numerous moments of high engagement levels to the activity and the group. PN verbalised their ideas, which on occasion would be directed to the peer sat beside them. PN also had a tendency to gain an independent understanding of the current task before addressing the rest of the group. In spite of displaying some moments of high engagement levels, PN struggled to present the groups ideas when asked by the teacher.

Following the research lesson, an informal group interview was conducted with the three focus children (See Appendix E). During the interview, each child reflected on enjoying the session, however PE explained how it found the activity "a bit easy." This reflection was made reference to when analysing the data, as PE's level of engagement measured fairly low. Both PE and PM stated how they did not enjoy working collaboratively with their peers. They commented on how

they experienced a lot of “fussing” and “people talking over each other”. PE further stated that two members of the group took leadership roles and attempted to dictate to their peers. In contrast, PN found comfort in working in a group as they found their peers “help[ed] each other”. It was interesting to discover that all pupils had a preference for working in pairs than in larger groups as they felt their opinions were more accepted. They all agreed that more difficult activities encourage their level of engagement. PM and PN suggested that the task begin at an easy level and gradually progressed to more difficult work. This was considered when making adaptations to the third research lesson.

During the lesson observation it was noted that PM’s levels of engagement decreased throughout. After discussion amongst the researchers and making reference to Binder et al (1990), it was thought that this could be due to the time allocated for each activity being too long. It was approximately midway through the activity that the decrease in PM’s levels of engagement occurred. As a result of this, the researchers noted that amendments need to be made to the plan to ensure appropriate timing. Another analysis that came out of the lesson research and interview process, was that the work was at an inappropriate level for the HA child. When making adaptations to the planning for cohort 3 it is empirical to ensure the level of work was appropriate for all learners and to observe whether this would aid pupil engagement. As reflected by the first cohort, the pupils’ preference lay to working in smaller groups. On gathering further data we will be able to conclude on the impact group size has on pupil engagement. Another interesting factor that came from the group interview was how the more confident pupils mentioned they did not enjoy the group work, whereas the less confident pupil felt more supported in her learning. Making comparisons to the first cohort, during the interview it was recommended that pupils were organised into smaller groups to avoid conflict and more

confident characters dominating the learning. The participants of cohort 2 were grouped based on ability, and although this allowed the pupils to work at a level appropriate to their group, it was analysed that there were too many dominating characters in the HA groups leading to disengagement of some pupils. Although mixed ability groups was an advantage to the first cohort, this method of grouping was decided inappropriate for cohort 2 and 3, due to the vast range of learning abilities within the class. Maintaining the grouping by ability allows the pupils to work at a pace suitable for all learners within the group, the task will additionally be differentiated (Ireson & Hallam 2003). Another implementation to the plan, made from the pupils recommendations, will be to slowly extend the level of difficulty of the tasks as the activity progresses. This will be done through the clues. All researchers agreed that due to the organisation of the lesson, observations made from the first cohort were in greater detail than observations made from 'floating'. From this it was decided that each observer would be allocated pupil(s) to observe in the third research lesson to try and ensure each child had equal opportunity to be observed.

Lesson Study 3 and Analysis

The final lesson study took place in a school situated on the outskirts of a small town. The participants consisted of 30 year 5/6 pupils between the ages of 10 and 11 years of mixed ability levels. For the purpose of the research the children will be labelled as follows; PT – male, HA, previously displaying low confidence levels, PG – female, HA, previously displaying low confidence levels, PC – female, LA, previously displaying low confidence levels.

The children were briefed and required to problem solve working in their usual groups of 4-8 pupils, organised by ability. The lesson followed the same structure as the first (See Lesson Study 1 and analysis for structure).

In correspondence with the prediction, almost the entire cohort engaged with the activity, however, there were occasionally some low levels of disruption and conflict. All groups collaborated efficiently with most agreeing on a final conclusion. One group however, the larger group of 8 LA children, decided to split into 2 smaller groups as they could not agree on one decision.

PT was predicted to engage with a leadership role throughout the activity, provided the work set to a high enough standard (See Appendix J). Likewise to the prediction, PT engaged with the beginning part of the activity measuring predominantly at a level 5 against the LSI. (See Appendix L) During this point of the lesson PT was not easily distracted and took an active role in collaborating with the group. They offered suggestions and listened to opinions. As the activity progressed PT began to become distracted and disengaged with the activity whilst occasionally challenging their peers opinions. PT's engagement levels were now measuring at a 3. As the activity came to a close, PT's engagement remained at a level 3. PT chose to solve problems independently rather than collaborating with the rest of the group.

The prediction made on PG explained how their low confidence levels may effect their ability to collaborate in a group activity. As a consequence to this it was noted that PG may be overshadowed by stronger characters within the group and become disengaged. This prediction proved true during the observation period. PG's levels of engagement were measured at a 1-2

against the LSI. Throughout the reading activity PG engaged independently with frequent moments of distraction, the child lacked energy and engagement for the remainder of the activity when collaboration was introduced. At no further point of the observed activity did PG attempt to engage with the activity or their peers.

As predicted PC attempted to engage, often copying the ideas of their peers (See Appendix J). Similarly to the LA children observed in cohort 1 and 2, PC's levels of engagement fluctuated between levels 1-5 (See Appendix L). PC displayed the highest level of engagement when being questioned by the teacher. After this interaction PC engaged deeply with the next part of the task, collaborating effectively and offering ideas. PC's level of engagement then decreased, becoming easily distracted and contributed little or no input. At the end of the activity PC made an attempt to take a leadership role. In spite of numerous attempts at this, PC was unsuccessful and resided to give minimal contribution as the group collaborated on their final answer. PC's group experienced some conflict resulting in a collaborated decision to divide into two groups for their final answer.

After completion of the lesson, the three focus pupils engaged in a group interview. All pupils enjoyed the lesson and collaborating with their peers. PT commented that they preferred working in a pair as they found this 'harder'. PC and PT reflected that disagreement between group members was a negative aspect they experienced during the activity and PT further concluded they preferred to work independently and tried harder when the work was more difficult. In contrast to this, PG and PC gave their preference to group work. Their reason for this was peer support.

After gathering the data and feedback from this cohort a collaborative analysis was made. The largest group of pupils in the cohort decided to divide into two groups. Along with pupil feedback this gave evidence that pupils engage better with cooperative learning when placed into smaller groups (Clements & Jones, 2008). During the interview PT explained how they engaged better with independent activities, in particular those more challenging. This corresponds with the observation made during the lesson as their level of engagement declined as the activity progressed. This is similar to observations made in other cohorts. PG was observed giving little or no engagement in the activity, however did state that group work aided their learning. If research on pupil engagement during group work was to be conducted again with this cohort, it would be interesting to place this child in a mixed ability group to see whether they engaged better with different pupils.

Discussion of Findings

After conducting the lesson study and analysing data it was concluded that group work aids pupil engagement, as many pupils felt more confident to engage with learning when supported by their peers as noted by Vygotsky (1978) in his research. Our finding linked closely to literature previously discussed on the topic, however one of the most interesting findings was that the levels of engagement of all focus LA pupils fluctuated dramatically throughout the activity, this disproves the theory of Laevers (1994). This could be due to numerous factors, such as the pupils they were grouped with. Further research on this topic would allow for a deeper understanding. In response to the research 'how to improve pupil engagement through a group activity in a Key Stage 2 classroom' it has been deemed that cooperative learning is most effective when the pupils are placed in smaller groups and more confident characters are diluted throughout the

groups. Most groups were able to effectively collaborate to conclude on a final answer and the conflict arose predominantly in groups where the children were of similar ability levels. As a collective the 9 focus pupils showed measurements right across the LSI with some exceeding expectations. This means that at times pupils were showing the maximum level of engagement whilst working as a group. Most pupils made attempts to collaborate effectively, however it was the preference of a small percentage to tackle problems individually.

As previously mentioned by Sensing (2011) an observer may affect the natural behaviours of the pupils. Disabling us from gaining a true representation of how the pupils engaged. Although there were many positives from conducting this research, the study did not allow us to trial amendments on the same cohort. We found that what worked for one cohort and was recommended during the interview process wasn't necessarily beneficial to the next cohort. Additionally, cohort 1 were used to cooperative learning whereas the following cohorts weren't so familiar with this learning style.

The LSI allowed us to measure levels of engagement fairly for all participants, however some observations contrasted drastically depending on the observers. This was suspected due to the time in which an observer watched a child in cohort 2 and where the observer was sat in cohort 1. We found that allocating focus pupils to an observer in cohort 3 allowed for a more reliable observation.

This research has highlighted that children prefer to engage with learning when the groups are of smaller numbers. Those less confident in their abilities feel the support of their peers aids them in reaching their learning potential, however like many techniques this is not true to all. By

observing year 3, year 5 and year 6 pupils it has given us an insight into the learning needs across KS2 and further research should explore ways of implementing group work effectively and efficiently for all.

Conclusion

This research followed the LS structure for professional development as developed by Dudley. Dudley (2014) states this is the most effective way for practitioners to work cooperatively together to observe, analyse and use the findings to help improve each other's professional development. The research method used was a structured, non-participant observation. An advantage of this is that there was a set structure to the observation as the researchers collected both qualitative and quantitative data focusing specifically on engagement during group activity. Although the observation lesson conducted was non-participant it was noted that the pupils were aware of the observer's presence in the classroom. As a result this could have affected the pupils' behaviour to act unnaturally in the classroom; this would have an effect on the findings of the observation (Bonner, 2002).

Throughout this research study I feel I have acquired skills that will aid my future practice. Using Dudley's LS strategy, I was able to work with colleagues to research a topic and progress my professional development. During the process I have been able improve my teamwork skills by working cooperatively with my colleagues. We were able to work together to share ideas and plan our observation. Whilst at my PTE1.2 school, I was able facilitate my leadership skills by taking a lead role during the research lesson and making predictions.

The research I have conducted will benefit me as I go forward into my second practice and has provided with new aims as a training practitioner. Firstly, from analysing this research and surrounding literature, I will ensure the pupils are split into mixed ability groups when participating with group work. By doing so, higher ability pupils will be able to support those less understanding of the learning outcome. Whilst planning during PTE 2 I will aim to use group work throughout my weekly lessons in various subjects. I plan to teach new skills to pupils through independent learning and then to explore these through different group activities to enhance their understanding.

Recommendations

This research allowed for a correlational analysis between group work and levels of engagement. Despite this, the time allocated to the research was limited. I recommend that professionals further researching this topic to consider a longer timescale with a larger cohort of participants. Another recommendation is to devise a series of lessons across all curriculum areas, varying in practical and written group tasks to see what effect has on levels of engagement. An additional variable I recommend future practitioners to explore is the effect of mixed or same ability pupil groups.

As a trainee teacher this research has highlighted to me the positive effect group work can have on pupil engagement, however it is also important to note that although many pupils appear to thrive through such activities, some pupils can lack confidence when expressing their opinions to the group. Further research with additional time would allow me to encourage confidence in these pupils and explore a range of strategies such as, mixing group members, allowing children to choose their groups or allocating roles.

In keeping with the upcoming curriculum for Wales, devised by Donaldson (2015), it is important that educators encourage collaborative learning and the development of group work skills within the classroom. In doing so schools will be providing children with the skills to be a strong team player of their future careers.

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Appendices

Appendix A – Leuven Scale of Involvement (Laevers, 1994)

Level	Involvement	Signals	School? Pupils (P)
1	Extremely Low	The child seems absent and displays no energy. They may stare into space or look around to see what others are doing.	
2	Low	Frequently interrupted activity. The child will be engaged in the activity for some of the time they are observed, but there will be moments of non-activity when they will stare into space, or be distracted by what is going on around them.	
3	Moderate	Mainly continuous activity. The child is busy with the activity but at a fairly routine level and there are few signs of real involvement. They make some progress with what they are doing but don't show much energy and concentration and can be easily distracted.	
4	High	Continuous activity with intense moments. The child's activity has intense moments and at all times they seem involved. They are not easily distracted.	
5	Extremely High	The child shows continuous and intense activity revealing the greatest involvement. They are concentrated, creative, energetic and persistent throughout nearly all the observed period.	

Appendix B Fernandez & Yoshida (2009)

1	Collaborative planning	A group of teachers coming together to plan the lesson, sharing ideas, current observations of their students, recalling past experiences and reviewing textbooks and other resources.
2	Delivering and watching the lesson study	One teacher teaching their students the agreed lesson, other teachers observing using the original plan to aid them.
3	Discussion of the lesson study	The group of teachers reflect on the lesson, share observations and suggestions for improvements.
4	Revising the lesson plan (optional)	The group of teachers revisit the initial lesson plan and adapt it.
5	Delivering the adapted lesson plan (optional)	A different member of the teaching group will teach the new lesson plan to their student with the other teachers observing.
6	Share observations and reflections of adapted lesson	Teachers regroup to discuss their findings from the lesson taught.

Appendix C – Lesson plan for cohort 1

Canolfan Addysg Athrawon De-Orllewin Cymru  The South West Wales Centre of Teacher Education		1B	
Session Plan – Key Stage 2			
Name of trainee: Amy Williams		Session ref: TET	
Personal target(s) in relation to QTS: S1.7, S3.2.2, S3.2.1, S3.1.4			
Year group: 3	No. of learners: 28	ALN: I.H. – Global delay, Maths support, IEP (reminder, finger spaces, tall letters, sit near front on carpet and teachers desk on task) R.P. – Hearing impairment, IEP, (Sit at front) EAL – G.T. A.S. L.S. N.C. (phonics mat) Maths support - E.F. N.C. I.H. B.G. M.P. L.T. Phonics reading – L.D. I.H. (phonics mat and sound chart) C.J. Impact coach for I.H. (see English rag, works more efficiently with C.J.) L.D. To be supported by L.C. or S.T.	
Additional Adults:		Emily Lowe and Kevin James non-participant observers	
Learning objective(s): To problem solve as a group		Success criteria: I can contribute to group discussion. I can give reasons for my answers. I can use the information provided to make decisions. I can apply prior knowledge and skills to help me problem solve.	
Links to previous learning: Children have been developing their group work and collaboration skills			
Curriculum coverage (range, skills): Communicate for a range of purpose. Respond orally to a variety of stimuli and ideas, speak and listen individually, in pairs, in groups and as members of a class. Use a variety of methods to present ideas – table.			
Literacy (LNF): Contribute to group discussion and share ideas. Use talk purposefully to complete a task in a group.		Numeracy (LNF): Identify the appropriate steps and information needed to complete the task or reach a solution. Select and use suitable instruments and units of measurement. Use standard units of measure: length: measure on a ruler to the nearest ½ cm	
DCF: Introduction Morfo. Main activity phone call.	Thinking: Linking ideas and concepts and making informed decisions.	ESDGC:	YCC: Reference to other primary schools in the Neath area.
Key vocabulary(English/Welsh): key vocabulary in orange: problem solve, group work, clues, discuss, team, method, contribute, collaborate, think, listen, bibliographies, fact file Incidental Welsh: Gwrandewch, Edrychwch, Dwylo i fyny, un dau tri llygaid arnaf fi, dim siarad,			
Time	Session activities, organisation and management		Key questions & Assessment for Learning opportunities

15 minutes	Introduction Introduce EL and KJ. Explain research – making notes to find out the best way children learn. Check understanding of research – What did we research last term? Did this research help us? Explain rights – do not have to participate in research must however participate in lesson, can remove self from research at any time, confidentiality/anonymous etc. Ask children who do not want to participate in research to stand (make not of these). Received a message this morning from Commissioner Gordon and the Gotham Police Force – play morfo. (Read letter, print or on smartboard, if morfo does not work). • This letter will explain the task. • To use the clues to help solve the crime. • To discuss and collaborate as a group. • To listen to each other and use thinking skills to make decisions. • Use biographies to help make decisions on which superhero they think the clue fits best. Show children that each group has Superhero suspect names and biographies. Show the children where they can find the clues. After I have read my clue what could I do to find out who it might belong to? – Use bibliographies/superhero fact files provided. What could I do with it now? – Encourage the children to lay their clues out like a table, using the superhero names as column headings. Main activities Children to split off into 6 arranged mixed ability/gender groups of 4/5 (1 group per table, 2 groups on the carpet). Children are to read the Superhero fact files as a group.	Key questions in green. After I have read my clue what could I do to find out who it might belong to? What could I do with it now? What have you noticed about some of the clues? Which superhero do you think it was? Why do you think this? Do the rest of your group agree? Has your decision changed as you have gathered more clues? How are you making these decisions? What are you using? Have you come across any problems? If so, what? What did you decide to do as a group? Why did you decide this? <u>AFL</u> Independent main activity with minimal input from adults. Non-participant observations. Question groups and individuals during activities. Use pit stops to question different groups and individuals. Discussion as a group, share findings. <u>Resources</u> Morfo Letter (digital and hard copy) Distressed phone call Superhero heading names Rulers 2 yellow clues 2 red clues 2 green clues 2 blue clues (differentiated clues) Superhero fact files (1 per character) Written record of assent for 3 focus children Leuven scale Notepad for notes from non-participant observers Voice recording device Assent/consent table Interview questions
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35 minutes	1 child per group to stand up. Collect first clues (2 different blue clues). Children are to discuss these clues and use the fact files to help them decide which superhero the clue belongs to. Some clues will fit more than 1 character. Repeat this for green, yellow and red clues (different child to collect each time). Once all clues have been collected the children need to rearrange the clues so that they all fit to 1 suspect. They must discuss the clues and continue to use the bibliographies to inform their decisions. The whole group must agree on a final decision. Pit stops and on going questioning Use these to check engagement and participation. What have you noticed about some of the clues? Which superhero do you think it was? Why do you think this? Do the rest of your group agree? Has your decision changed as you have gathered more clues? How are you making these decisions? What are you using? Have you come across any problems? If so, what? What did you decide to do as a group? Why did you decide this? Phone call from distressed superhero (distorted voice and black and white distorted image) Encourage children to discuss this as a group. Extension On plain paper children are to work as a group to design a wanted poster. Use the clues to write a description of their suspected superhero. Include labels and an image of the superhero.	
5 minutes	Plenary Children to share their final decision with the rest of the class and give reasons for their decision.	

Appendix D – Cohort 1 Interview

PS, PN and PI were interviewed together by selected questions

Miss EL delivered the majority of questions to the pupils and Mr KJ Miss AW occasionally added to the interview questioning

The interview was voice recorded.

- **Did you enjoy the lesson?** All three pupils said yes.
- **Do you like working as a team? Why/Why not?**
PI- yes I like discussing with other children and they can help me
PS- Yes because it means you get to listen to peoples different perspectives and it can help you learn in another way.
PN- It can help you when you are stuck.
- **What are the cons about working independently?**
PI- it is sad and lonely
PS- Sometimes when you are clear on something it is hard to describe to someone else who does not understand.
PN- it is harder, you don't know what to do and have no one to help.
- **What would you do if you group does not listen to your opinions?**
PI- tell teacher
PS- ask them to listen. Listen to their points first. Wait till an appropriate time to tell your opinion.
PN- tell the teacher.
- **Did you work well with everyone in your group?**
All answered yes.
PS- sometimes I can be bossy in my group
PI- Yes because I think stuff in my mind then I tell the group
- **Did you find the activity interesting?**
PI- no I could not figure out who was to blame.
PS- Exciting.
All said they had heard of the superheroes before.
- **Did everyone listen to you in your group?**
PS- yes
PN- I did not get much chance to speak.
PI- all listened. The group worked well.
- 16. **Does having a good relationship with your teacher help your engagement?**
PN and PI – yes
PS- better relationship makes you try harder because you want them to be proud of you.
All said if it is a fun lesson it does not make them want to try harder.
- 17. **Big group or small group?**
PS- small group, it is easier to communicate
PI- big, then you get more ideas.
PN- Small, find it difficult to hear everyone in a big group.
- 18. **Would you prefer to choose your group?**
PS and PN- Choose.
PI- put in group.

Appendix E – Cohort 2 Interview

2. Did you enjoy today's lesson?
All pupils- Yes
PE- it was a bit easy
- What was the most enjoyable part of the lesson?
PM- finding out the answer
PE + PN- When we had to figure out all of the clues
 - Did you like working in groups?
PE + PM - No
PN- yes
1. Why not?
PM- too much fusing, everyone was speaking at once.
PE- two people were taking over each other, two people were taking charge and telling us what to do.
1. Why did you like it?
PN- because you can help each other.
- What are the good things about working independently?
PM- you get your work done quicker
PE- you get more time to think.
PN- you learn more
1. Did you prefer working in pairs or bigger groups?
All - pairs
2. Why?
PM + PE- it's easier, there is less fuss. You have more of a chance to have a say.
PN- it is easier
3. If your group did not acknowledge ideas what would you do ?
All- leave and to down independently
5. Did you find activity interesting?
PM- yeah I have watched all of the superhero films
PN + PE - No
6. What helped you engage with the lesson, if you did?
PM- the clues because they were fun to work out.
PE- there wasn't anything that made me engage.
PN- I don't know
8. Does It make a difference is the work is fun and practical?
PE- Yes, because it is more interactive
5. If you had to do this lesson again, how could the teacher improve it?
PM- give the option of working in a group or individually or pair.
PE- I would listen to other people's ideas in my group.
PN- not sure
1. Do you find you work better if task is too easy or too difficult?
PE- difficult
PM + PN- easy then get harder.

Appendix F – Cohort 2 Interview

PT, PC and PG were interviewed together by selected questions
Miss EL delivered the majority of questions to the pupils and Mr KJ Miss AW occasionally added to the interview questioning.

The interview was voice recorded.

3. **Did you enjoy the lesson?** All three pupils said yes.
PC – I enjoyed solving the questions
PT – I enjoyed predicting the suspect
PG – I enjoyed the end when Mr James told us
4. **Did you like working in a group?**
PC – yes
PG – Same answer
PT – I prefer working in a pair because it's harder
5. **What are the negatives about working in a group?**
PC – People disagree
PT – Like PC said
6. **Do you prefer to work as a group or on your own?**
PT – individually because you wouldn't talk as much
PC – in a group because you get more help
PG – Same as PC
7. **What would you do if your ideas weren't listened to by the rest of your group?**
PC – Get angry
PG – Don't know
PT – leave it and get on with it
8. **Would you rather choose your role in the group or have the teacher tell you?**
PC – Choose
PT – Teacher tell us or there will be arguments
PG – Same as PT
9. **Did your group use the thinking hats?**
PC – Some people used them
PG – We didn't use them
PT – We didn't use them
10. **Do you engage more when you find the activity is fun?**
All said yes
PT – I would like harder questions
PG & PC – Same as PT
11. **What makes you try harder?**
PC & PG – Enjoyment
PT – Difficulty of the work, if it's harder I try harder
12. **Do you prefer it if the activity is hard or easy?**
PC & PG – difficult
13. **What helps you learn?**
PG – group
PC – group
PT – Enjoyment

None of the children thought their relationship with their teacher made a difference to their learning.

Appendix G – Cohort 1 Predictions

This cohort are used to working in groups of mixed ability and gender. This cohort are also used to working with a range of peers. There are a handful of dominant and confident characters that have been spread out between the 6 groups. Peer impact coaches for specific children have been taken into consideration.

Predictions

Most if not all children will engage with the lesson. There may be conflict between some children resulting in refusal to engage. All groups of children will be able to give a final decision. The children will complete the activity with minimal stress in regards to the level of work.

PI (ALN – Global delay) – Will engage with group discussion because of the subject matter but comments may be ignored by other group members. Will struggle to read parts of clues and fact files. Will have large prior knowledge on the subject matter. Will be grouped with their peer impact coach.

PN (EAL – Chinese) – Will attempt to engage verbally with group discussion but will lack confidence to succeed, other group members will dominate. Will struggle to read some clues. Should be able to read all of fact file. Will have little prior knowledge on the subject matter.

PS – Will engage with group discussion and encourage peers to give thoughts and opinions. Will assign self a leadership role and take control. Will be able to fluently read all clues and fact files. Will have some prior knowledge on the subject matter. May get distressed should the group display any conflict.

PS and PN will be placed in the same group. This has been done in prediction that PS will attempt to encourage engagement from PN.

Appendix H – Cohort 2 Predictions

Predictions

Most of the children will engage in the lesson. There may be conflict between some children which may cause them to disengage and refuse to take part in the lesson.

The work set is at a medium difficulty level. The higher ability group will complete the task quickly whilst the lower ability group may take more time. Confident characters in the class may take over the activity and control the event.

PE- HA.

Will engage in the group discussion. She is a confident character that may control her group. The child will find the work easy- this may cause her to disengage. It is unlikely that the child will be interested by the superheroes in the topic but may enjoy the activity.

PM- MA

M is a very confident child, he may control the group discussion. The child will enjoy the activity and be interested by the topic.

PN- LA

May attempt to engage verbally with group discussion but will lack confidence to succeed. If the child is not listened to it is likely that she will disengage and get distracted.

Appendix I – Cohort 3 Predictions

Predictions

I predict that nearly all of the pupils will engage in the lesson and there will be a low level of disruption. There may be disagreements between some pupils which may challenge their ability to collaborate as a group and stay on task. Every piece of work is differentiated for each ability group in which they are familiar with and set in general as a medium difficulty level. The higher ability groups have more comprehensive work to read and understand and more challenging clues. There are some confident characters in the class that may take over the activity and control the task and attention of the teachers.

PT - HA

Pupil TJ will at large engage in the group task however he is controlling and is the only boy in the group. Furthermore often if the task is not set high enough or he does not have control he will not collaborate effectively and disengage and sometimes be disruptive.

PG - MA

Pupil GP is a bright pupil however she has very low self-esteem and confidence. She may struggle to collaborate and may get overpowered by other pupils in her group and as a result disengage in the task.

PC - LA

Pupil CC will attempt to engage however she struggles to initiated ideas and often copies or builds on other in collaboration tasks. She can also get easily distracted by a male pupil who sits by her. Pupil CC can easily go off task however hopefully the task will be engaging.

Appendix J – Cohort 1 Observations

There was some conflict between groups resulting in refusal of engagement for some individuals. Adult intervention was required to overcome these issues. Some children felt they were not being listened to. Some children wanted to take control and complete the task with little collaboration. Some children were unhappy when their thoughts were not the final decision – these thoughts were considered and listened to by the group.

All groups agreed on a final decision.

Most children engaged with the task and when questioned were able to give answers and reasons alongside explaining the process they took to make the decision.

Most groups were able to recognise problems and collaborate to find ways to overcome these.

The activity encouraged group discussion.

PI – Actively gave thoughts and opinions to the group. Showed little engagement of listening to the rest of the group. Relied heavily on prior knowledge of films to help inform decisions. Could give answer to teacher's question on where their group decided to place the age clue and explain their reason why by extracting data from the fact file. Body language was stood up leading in towards group for most of the activity. Displayed moments of discussion with 1 peer with similar prior knowledge – off topic discussion. Went compliantly with majority vote but could explain why they perhaps thought different.

PN – Gave no verbal engagement to group. Appeared to be engaged by moving clues and looking briefly at them. Body language was half stood pushed in towards the rest of the group when teacher was near. Body language was pulled back from the group in their chair when teacher moved away. Struggled to answer teacher's question on where their group placed the age clue and why. Struggled to show an understanding of extracting data from fact file.

PS – Took a self appointed leadership role. Gave own thoughts then asked peers whether they agreed or disagreed, why and any other thoughts they may have. Body language was stood for the whole duration of the activity, with a lot of movement. Engaged heavily with the clues and fact files. Could answer questions from teacher and give peer's thoughts on the topic also when considering answer. Considered the views of others and was willing to change opinion. "X suggested that it was Superman because it is more likely that ..."

Observer 1

Pupil (P)	Scale	Involvement	Observation notes Signals	Lesson/Activity Part
S	4	High	At all times PS was involved. PS was not easily distracted and was listening on task (Sitting on floor near the front 2 nd row and next to PN).	Introduction
	4	High	PS immediately took control of her group and the task however PS also helped other pupils especially PN. PS he asked PN on one occasion "Do you want to have a go?"	Task- Reading/Discussing Biographies
	4	High	PS immediately took control of her group and the task however PS also helped other pupils especially PN again.	Task- Red Clues
	5	Extremely High	PS continued with control of the group furthermore PS showed continuous and intense activity revealing the greatest involvement. PS was concentrating, creative, energetic and persistent throughout for nearly all the observed period. PS activated her prior knowledge on Superhero's to help her thinking skills and process of elimination on the task. PS was fully engrossed and volume raised however PS stopped giving support to PN.	Task- Blue Clues
	5	Extremely High	PS continued with control of the group furthermore PS showed continuous and intense activity revealing the greatest involvement. PS was concentrating, creative, energetic and persistent throughout for nearly all the observed period. PS activated her prior knowledge on Superhero's to help her thinking skills and process of elimination on the task. PS was fully engrossed and volume raised however PS stopped giving support to PN.	Task- Green Clues
	5	Extremely High	PS continued with control of the group furthermore PS showed continuous and intense activity revealing the greatest	Task- Yellow Clues

			involvement. PS was concentrating, creative, energetic and persistent throughout for nearly all the observed period. PS continued to work through the task using the clues to group to a Superhero. PS was fully engrossed and volume raised however PS started to again support PN.	
	5	Extremely High	PS continued with control of the group furthermore PS showed continuous and intense activity revealing the greatest involvement. PS was concentrating, creative, energetic and persistent throughout for nearly all the observed period. PS continued to work through the task using the clues to group to a Superhero. PS was fully engrossed and volume raised however PS started to again support PN. PN concluded that that the clues led to the answer of it being Captain America however after working with others in the group she changed her conclusion to Spiderman.	Task- Conclusion/Prediction
N	3	Moderate	PN showed that there were a few signs of involvement and engaged slightly. However PN too often showed a lack of energy, concentration and was easily distracted (Sitting on floor near the front 2 nd row and next to PS).	Introduction
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographies), but there was far too many moments of non-activity participation especially communication. Furthermore PN remained quiet, did not contribute, stared into space and generally looked disinterested and also allowed PN to have control of the task.	Task- Reading/Discussing Biographies
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographies), but there was far too many moments of non-activity participation especially communication. Furthermore PN remained quiet, did not contribute, stared into space and generally looked disinterested and also allowed PN to have control of the task.	Task- Red Clues
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographies), but	Task- Blue Clues

			there was far too many moments of non-activity participation especially communication. Furthermore PN remained quiet, did not contribute, stared into space and generally looked disinterested and also allowed PN to have control of the task.	
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographies), but there was far too many moments of non-activity participation especially communication. Furthermore PN remained quiet, did not contribute, stared into space and generally looked disinterested and also allowed PN to have control of the task.	Task- Green Clues
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographies), but there was far too many moments of non-activity participation especially communication. Furthermore PN remained quiet, did not contribute, stared into space and generally looked disinterested and also allowed PN to have control of the task. PS asked PN to get the Yellow Clue however she did not and allowed another pupil in the group to get the Yellow Clue.	Task- Yellow Clues
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographies), but there was far too many moments of non-activity participation especially communication. Furthermore PN remained quiet, did not contribute, stared into space and generally looked disinterested and also allowed PN to have control of the task. Miss AW asked PN what she concluded to check her understanding on the task however she gave a limited and laboured answer without being able to explain why she struggled in front of the wider class. Another pupil stepped in to explain the reason why.	Task- Conclusion/Prediction
I	2	Low	PI appeared engaged in the activity for some of the time he was observed, but there was quite allot of moments when he stared into space, fidgeted and was distracted by what was going on around	Introduction

			him (Sitting on floor at the front).	
	3	Moderate	PI showed that there were a signs of involvement and engaged however PN too often showed a lack of concentration and was easily distracted additional he would not sit still and fold his legs sitting and/or rock his chair.	Task- Reading/Discussing Biographies
	2	Low	PI appeared engaged in the activity for some of the time he was observed, but there was quite allot of moments when he disengaged, fidgeted and was overpowered by female members (3) of his group and what was going on around him.	Task- Red Clues
	4	High	PI showed a greater involvement as the task went on and was not as overpowered by other female members of the group. PI was concentrating, creative, energetic and persistent throughout for nearly all the observed period. Used his thinking skills and process of elimination on the task.	Task- Blue Clues
	4	High	PI showed a greater involvement as the task went on and was not as overpowered by other female members of the group. PI was concentrating, creative, energetic and persistent throughout for nearly all the observed period. Used his thinking skills and process of elimination on the task.	Task- Green Clues
	4	High	PI showed a greater involvement as the task went on and was not as overpowered by other female members of the group. PI was concentrating, creative, energetic and persistent throughout for nearly all the observed period. Used his thinking skills and process of elimination on the task.	Task- Yellow Clues
	4	High	PI showed a greater involvement as the task went on and was not as overpowered by other female members of the group. PI was concentrating, creative, energetic and persistent throughout for nearly all the observed period. Used his thinking skills and process of elimination on the task. PI was again wrestles and jumped up and down.	Task- Conclusion/Prediction

Observer 2

Pupil (P)	Scale	Involvement	Observation notes Signals	Lesson/Activity Part
I	2	Low	The child was sitting on the carpet. He regularly looked at Miss Williams, but spent the majority of the time looking around the classroom/ out of the window. He had a vacant facial expression and did not physical react to the teacher at all even when his peers were cheering/ getting excited.	Introduction
	2	Low	The child did not make any attempt to read the biography. He did not involve himself in the discussion at all. However, he was learning into the table and occasionally showed signs of listening to his peers, for example, raising his eye brows.	Task- Reading/Discussing Biographies
			The child eagerly stood up to collect the first clue. Another child in his group directed him to sit down and that someone else would get the clue. The child listened to his impact coach. Once seated he began to swing on his chair and look around the classroom whilst he awaited for the child to come back with the clue.	Instructed to collect first clue.
	3	Moderate	The child looked at the child who was reading and his body language implied that he was listening to the child. Child 1 leant over the table and gave his opinion without prompting.	1 st clue
			Child made no attempt to stand up to get the clue.	Instructed to get second clue.
			When the clue was being read out, the child was leaning back on his chair and looking around the classroom.	2 nd Clue
		High	The child kept referring back to the film with the characters in, he would opening give his opinion with a reason to back his opinion up, his opinion was based on the film and not the evidence given. When speaking the child stood up and leaned over his table to be closer to his group. After offering his opinion 3 times and not getting a reaction either time, the child sat back down in his seat and began looking around the classroom again. When speaking, the child looked at his impact coach.	Discussion of 2 nd clue.

	1	Extremely Low	After offering his opinion 3 times and not getting a reaction either time, the child sat back down in his seat and began looking around the classroom again.	Discussion of 2 nd clue.
	1	Extremely Low	Child I made no attempt to collect the apparatus needed. He also did not take any interest in measuring the footprint- he did not ask if he could join in, attempt to have a go, or watch his peers whilst they were measuring.	Discussion of 3 rd clue (Measuring)
			Child I showed no clear signs that he was listening to the teacher. He was swinging on his chair and looking out of the window.	Teaching talking and class discussing what they found.
			Despite that the child did not seem engaged, his knew what his group had to do to complete the task (sort the instructions so they were under one superhero)	Returning to task.
	2	Overall engagement: Low	The child seemed to have a moderate interest in the topic as he kept referring to the films that he had watched. There was little to no attempt to take part in the group discussion and to take any responsibility to help solve the task.	Conclusion

Appendix K – Cohort 2 Observations

There were conflicts between groups, this led to some physical and verbal disputes. This caused some children to refuse to take part in the activity. Some children struggled to share with their group, almost taking the clues hostage and not letting any other children read or look at them. Some children struggled to comprehend that other children had different opinions. Some children were happy to sit back and let the dominant member of the group complete the task. The cohort worked better in pairs than in bigger groups. Most children were engaged in the task and agreed on a final decision.

ELD did not engage with the task. She was happy to let the dominant members of the group complete the task.

MB- Was very vocal in his group, he led communication with his group and with the teacher.

Observer 1

Pupil (P)	Scale	Involvement	Observation notes Signals	Lesson/Activity Part
E	3	Moderate	PE showed that there were a few signs of involvement and engaged slightly. However PE too often showed a lack of energy, concentration and was easily distracted where she was off task talking to another girl in her group.	Introduction
	2	Low	PE gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographs), but there was far too many moments of non-activity participation especially communication. Furthermore PE remained quiet, did not contribute, stared into space, fiddled with her hair and generally looked disinterested and also allowed others in her group to have control of the task.	Task- Reading/Discussing Biograph
	2	Low	PE gave off the impression she engaged in the activity for some of the time she was observed (Moving Biographs), but there was far too many moments of non-activity participation especially communication. Furthermore PE remained quiet, did not contribute, stared at the window, fiddled with her hair and generally looked disinterested and also allowed others in her group to have control of the task.	Task- Red Clues 1
	2	Low	PE Same as Red Clues	Task- Yellow Clues
	2	Low	PE gave off the impression she engaged in the activity for some of the time she was observed where PE briefly discussed Spiderman, but there was far too many moments of non-activity participation especially communication. PE continued to look disinterested and also allowed others in her group to have control of the task.	Task- Green Clues
	2	2	PE Same as Green Clues (Also did not make an effort to collect any clues).	Task- Blue 1 (Map Clues)
	1	Extremely Low	PE appeared absent and displays little energy. Furthermore PE increasingly stared into space or look around to see what others are doing (disengaged).	Task- Red Clues 2
	1	Extremely Low	PE Same as Red Clues 2	Task- Blue Clues 2
	1	Extremely Low	PE Same as Blue Clues 2	Task- Yellow Clues 2
	1	Extremely Low	PE Same as Yellow Clues 2	Task- Blue Clues 3
	2	Low	PE gave off the impression she understood the activity however PE struggled to answer Miss EL question in any sort of detail.	Task- Conclusion/Prediction
	2	Low	PE gave off the impression she understood and engaged in the activity however struggled to contribute meaningfully. PE continued to look disinterested and also allowed others in her group to have control of the task.	Overall
M	3	Moderate	PM showed that there were a few signs of	Introduction

			involvement and engaged slightly where he took control of the group. However PM did show at times a lack of energy, concentration and was easily distracted where he was off task talking to another boy in his group.	
	4	High	PM showed a greater involvement as the task went on and was happy to take control. PM was concentrating, creative, energetic and persistent for nearly all the observed period. Used his thinking skills and process of elimination on the task. However when Miss EL asked the class for attention for more information PM continued to talk and Miss EL had to remind him about the class rules.	Task- Reading/Discussing Biograph
	4	High	PM showed a greater involvement as the task went on and was happy to take control. PM was concentrating, creative, energetic and persistent for nearly all the observed period. Used his thinking skills and process of elimination on the task. PM also activated his prior knowledge on the Superhero's to support his opinion on who could have committed the crime. Furthermore he did collaborate effectively and listened to others opinions. PM also mentioned to Miss EL that it was a hard task.	Task- Red Clues 1
	4	High	PM Same as Red Clues	Task- Yellow Clues
	4	High	PM Same as Yellow Clues	Task- Green Clues
	3	Moderate	PM showed that there were a few signs of involvement and engaged slightly where he took control of the group. However PM did show at times a lack of energy, concentration and was easily distracted where he was off task talking to another boy in his group.	Task- Blue 1 (Map Clues)
	3	Moderate	PM Same as Blue Clues 1 (Map Clues)	Task- Red Clues 2
	3	Moderate	PM Same as Red Clues 2	Task- Blue Clues 2
	3	Moderate	PM Same as Blue Clues 2	Task- Yellow Clues 2
	3	Moderate	PM Same as Yellow Clues 2	Task- Blue Clues 3
	3	Moderate	PM gave off the impression he understood the activity however PM gave Miss EL brief answers when questioned.	Task- Conclusion/Prediction
	3	Moderate	PM showed that there were signs of involvement and led the group at large throughout the task. However PM also showed a lack of energy, concentration and was easily distracted where he went off task talking to another boy in his group.	Overall
N	4	High	PN showed good signs of involvement and was happy to take control. PN was concentrating, creative, energetic and persistent for nearly all the observed period.	Introduction
	4	High	PN showed good signs of involvement and was happy to take control. PN was	Task- Reading/Discussing Biograph

			concentrating, creative, energetic and persistent for nearly all the observed period. However PN was only worked with 1 girl next door to her.	
	3	Moderate	PN showed signs of involvement as the task continued and was happy to take control. PN at large was concentrating, creative, energetic and persistent for nearly all the observed period. However PN was not collaborating with others bar 1 girl next door to her.	Task- Red Clues 1
	3	Moderate	PN Same as Red Clues	Task- Yellow Clues
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed however there was many moments of non-activity participation especially communication.	Task- Green Clues
	2	Low	PN gave off the impression she engaged in the activity for some of the time she was observed however there was many moments of non-activity participation especially communication. She became more distracted as a pupil was moved by the LSA and put by her.	Task- Blue 1 (Map Clues)
	2	Low	PN Same as Blue Clues 1	Task- Red Clues 2
	2	Low	PN Same as Red Clues 2	Task- Blue Clues 2
	2	Low	PN Same as Blue Clues 2	Task- Yellow Clues 2
	2	Low	PN Same as Yellow Clues 2	Task- Blue Clues 3
	2	Low	PN gave off the impression she understood the activity however PE struggled to answer Miss EL question in any sort of detail. Also she only really collaborated with the 1 girl next door to her.	Task- Conclusion/Prediction
	3	Moderate/Low	PN gave off the impression she understood and engaged in the activity however struggled to contribute meaningfully to the wider group. PN also could not give any depth to a question asked by Miss EL.	Overall

Observer 2

Pupil (P)	Scale	Involvement	Observation notes Signals
E	3	Moderate	After a short discussion with partner off topic the child mainly engaged with the activity. When requested to do so by her partner, the child read the news article aloud and briefly helped locate answers, although there were few signs of real involvement. She made some progress with what she was doing but didn't show much energy and concentration and

			was easily distracted by peers in other groups.
	2	Low	The child started with high engagement "I'll go up for this one" when Miss EL asked children to collect clues. The child read the clue aloud before returning to her seat. Following this the child made no effort to read the biographies or to give an input to problem solving. After staring and showing little engagement "That could be for Spiderman" this comment was ignored by most of the other group members who were highly engaged. The child started resting her chin on her hands with no attempt to engage any further.
	1	Extremely low	The child seemed absent and displayed no energy. She stared into space and did not engage at all with group. When the group was questioned by Miss EL she did not participate in giving an answer.
	2	Low	The child was disengaged with the activity until she noticed peer was struggling to measure the footprint correctly. She assisted her peer but did not engage with other group members.
N	4	High	The child took control of her pair. She chose to write and read the article in silence. At all times they seemed involved in the activity however they did not communicate with their partner until they had completed the activity independently. "Let's read through this again." She read aloud the questions and her answers on the sheet to her partner. She was not easily distracted.
	3	Moderate	The child attempted to engage with the other girl in the group, also her partner from previous task. The child did not engage with the boys in her group. The child seemed to read the Spiderman biography and was distracted by singing the theme tune. The child did not engage in a discussion with her group.
	4	High	The child read biographies to herself and located helpful information. She shared this verbally and effectively with all of her group. The child was distracted by where her group positioned the clues, wanting them near her or in her hand. This stimulated the child to ignore her group.
	1	Extremely low	The child did not engage with this clue. The child had multiple moments of staring.
	3	Moderate	Engaged with the map briefly "Oh my gosh" passed the clue across to peers. The child listened to the opinions of her peers and showed engagement by leaning towards them and reading the biographies. "I think Spiderman" comment ignored, turned to face partner directly "Spiderman was born on Earth" reference to previous clue. Distracted by water bottle for majority of task.
	4	High	The child was continuously engaged leaning in towards group. The child gave opinions "Wait Spiderman is younger than Captain America" and listened to her peer's opinions. She was not easily distracted.
	4	High	The child engaged in a group discussion about the clues and actively looked for information on the bibliographies, however she did this independently. She then verbalised and shared

			her thoughts to the group.
M	3	Moderate	The child was mainly engaged with the activity. The child was often distracted by tapping the table and stared. When questioned about the activity by regular teacher the child did not engage with the answer but allowed his partner to talk on his behalf. They make some progress with what they are doing and read aloud the question sheet in a range of voices. When engaging with written task the child wrote both his opinion and contrasting opinion of partner. After writing the child threw the pen down on the table "your turn". The child then read aloud the next question for partner. The child had moments of off topic discussions with peers in other groups.
	5	Extremely high	The child collected this clue and showed continuous and intense activity revealing the greatest involvement. He was concentrated on the task taking a leadership role. "It's not superman because it says he was born on Earth" engaging with the clue and biographies. Although engaged the child occasionally sung to himself when members of the group were giving a contrasting argument to his statement. "PT you are getting the next one. Sit down then you can get it." Other members in the group suggested their ideas to this child.

Appendix L – Cohort 3 Observations

Overall the predictions were at large correct where PT disengaged from others in his group, PG withdrew herself and got overpowered by other group members and PC also went off task and showed a lack of understanding in what the task was. There were a couple of boys in PC and PG groups who had low level conflicts and this may have affected the focus pupil. Some children struggled to collaborate with their group however at large most pupils collaborated effectively. Some pupils were certainly engaged and made additional notes to support the comprehension and clues in finding the culprit who committed the crime. All pupils wanted to find out who the culprit was at the end.

Observer 1

Pupil (P)	Scale	Involvement	Observation notes Signals	Lesson/Activity Part
T	4	high	T volunteered to read the WALT out to the class. When the teacher was talking he was looking at the teacher and responding to the teachers questions.	Introduction
	5	Extremely high	T appeared to be on task. He kept his eyes on the papers and read for the whole time he was supposed to be- even reading things twice. He kept his head down and was engaged with his work and did not get distracted. (Note that the child was sitting next to a window)	Task- Reading/Discussing Biograph
	5	EH	T stood up to retrieve the clue. He read the clue to the rest of the group and openly gave his opinions. He listened to others well. (Note that he is the only boy on the table)	Clue 1
	5	EH	T takes the clue of the child who went to retrieve it. He gives his opinion with a reason.	Clue 2
	3		A child in the group retrieved the clue. The group read the task	Clue 3
	3		The child was sat back in his chair, he looked at me (E.L) then suddenly took the clue off another child and read it. At this point E.L moved away from the child as I felt I was not getting a true observation	Clue 4
	3		The child would stand up to read the clue. He then sat in his seat away from the group and read the spiderman bio independently. He discussed the clue, occasionally disagreeing with the group.	Clue 6
	3		Measuring clue- The child was not listening to his group. He was spinning a piece of paper around on the table. When the group was stuck he snatched the clue and read it independently. He then solve the maths problem independently and told his group how he did it.	Clue 7
	3		When the teacher was telling the class who it was. T was swinging on his chair only partially listening. When the teacher directly spoke to the child, T would not look at the teacher or make eye contact. When giving his	End of lesson.

			prediction in front of the class T gave silly answers, he was laughing and looking around at his class mates- possibly for a reaction?	
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Observer 2

Pupil (P)	Scale	Involvement	Observation notes Signals	Lesson/Activity Part
C	4	High	The child was quick to engage with the biographies. Selecting one then being passed others by peers. The child showed continuous activity with intense moments. She organised the biographies into a line and read them aloud to her peer getting frustrated when he swapped them around "Oh stop it". As a consequence she continued to read the biographies silently. At all times the child seemed involved in the task, discussing the biographies with her partner and listening to the conversations of her peers. PC's response to question by adult directed to whole group "A thinks it is Wonder Woman, I think it's him, him or him." PC constantly engaged with the biographies and listened to her peers. She did not engage in conversation beyond her partner.	Task – Reading biographies
	3	Moderate	PC's group engaged in a discussion of who they thought the culprit was before the clue was collected. PC listened to the group and appeared engaged for most of the discussion through body language (leaning in towards the group, looking at whoever is talking), however rarely gave verbal contribution. On two occasions she attempted to interact but was ignored by her peers, "It can't be Superman ..." "She is the princess so why would she steal something?"	Task – Clue 1
	3	Moderate	PC showed mainly continuous activity. But showed few moments of real engagement. She leaned across the table listening to her peers and repeated comments just spoken. She was quick to agree with the dominant group members. She directed any personal opinions to single members of the group with no reaction in return. PC showed some moments of staring into space and being distracted.	Task – Clue 2
	2	Low	PC attempted to take control by going to collect the clue shouting at her peer. Her peer ignored her abrupt request and collected the clue himself. PC displayed frequently	Task – Clue 3

			interrupted activity. She was engaged in the activity for some of the time she was observed, but there were moments of non-activity when she was distracted by what was going on around her. Particularly by the other two female members of the group who had decided to work separately.	
	1	Extremely low	PC was frequently distracted by and played with her pen. She did not contribute to the group discussion or engage with the activity.	Task – Map
	2	Low	PC's group had some conflict when deciding who should collect this clue. The child showed a moment of engagement with the activity by pointing to the superhero she thought the clue matched best to. The child spent most of this activity looking around at other groups and displays on the walls.	Task – Clue 5
	5	Extremely high	PC was questioned by Mr KJ. She could recall who the group currently thought the culprit was and give reasons. The rest of the group then engaged with the answer but PC summarised.	Pit stop
	5	Extremely high	The child was engaged with the activity throughout the observed period. She read aloud the biographies to the group and gave verbal input. All the group were engaged with the activity with occasional off topic conversations.	Task – Clue 6
	2	Low	The child collected the clue and read it aloud to her group. This was the only engagement PC showed to the activity. The child was distracted by her pen, banging it on the table.	Task – Clue 7
	3	Moderate	PG repeated Mr KJ's instructions to the group and tried to take leadership by asking the group to raise their hands if they thought it was a certain character. The group ignored this. PG was distracted by her pen and gave little verbal input when asked a question by her peer.	Task – Group conclusion
	4	Extremely High	PC could give answer and reason to Mr KJ and also suggest who the group thought it could have been and was. She could recall the process the group took to get their final decision.	Sharing to whole class
G	2	Low	The child initially engaged in reading the biographies with her partner but showed frequently interrupted activity. PG was often distracted by her peers who were moving around. The child was engaged in the activity for some of the time by turn taking to read the biographies aloud. There were moments of non-activity when the child stared into	Task – Reading biographies

			space and yawned, ignoring her partner who was trying to engage in discussion.	
	1	Extremely low	The child seemed absent and displayed no energy. She stared into space and looked around to see what others are doing. She showed no signs of engagement with the activity.	Task – Clue 1
	1	Extremely low	The child appeared absent and displayed no energy. She stared into space with no engagement with the activity.	Task – Clue 2
	1	Extremely low	The child made no attempt to engage with the activity. She stared and looked around her, leaning her head on her hands.	Task – Clue 3
	1	Extremely low	The child did not engage with the group or activity. Her peer sat next to her occasionally giving verbal input to group. PG often looked around her and stared into space.	Task – Map
	1	Extremely low	The child had no engagement. She leaned on her hands and looked around.	Task – Clue 5
	2	Low	PG was questioned by Mr KJ. She struggled to give an answer and response. She looked briefly at all clues on the table looking at peers for help. Some peers whispered answers to PG. PG did not give a certain answer. Peers were asked by Mr KJ giving a definite answer. PG stared into space and was not engaging with the other groups as they gave their answers.	Pit stop
	1	Extremely low	The rest of the group were engaged with the activity. PG spent the whole of the observed period looking around and playing with her pen.	Task – Clue 6
	1	Extremely low	PG showed no engagement with the activity but instead played with her pen and ruler.	Task – Clue 7
	1	Extremely low	PG showed no engagement with the group discussion. She stared into space for the whole of the observed period.	Task – Group conclusion
	1	Extremely low	PG did not engage with group answer. PG spent the whole of the observed period staring into space.	Sharing to whole class

Appendix M – Written assent

Written assent to participate in research

I _____ give assent to take part in the research project. I give assent to the researchers to observe my responses and ask research-based questions. I understand that I do not have to answer all/any of these questions. I understand that the information collected will remain confidential and that I will remain anonymous in any work produced. I understand that it is my right to withdraw from the research at any time and as a result will not be treated any differently.

Signed _____ (pupil)

Date _____

School _____