

HOW CAN CHILDREN'S ENGAGEMENT BE IMPROVED THROUGH USE OF INTERACTIVE ACTIVITIES WITHIN A KEY STAGE 2 CLASSROOM?

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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	
Subject Knowledge and Understanding		Analysis	
Student's Name		Date	
Student's Signature			

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How can children's engagement be improved through use of interactive activities within a Key Stage 2 classroom?

Purpose of Research

Improving children's engagement is absolutely essential for their learning, if they are not engaged within lessons they will not learn (Bender, 2017). I believe it is crucial to improve the engagement of children as they cannot learn effectively without being engaged in the content of the lesson. During my teaching experience, I found that providing interactive and engaging introductions within lessons is essential in not only improving children's engagement, but also their learning. Within my key stage 2 class, it was observed that most of the children needed a very thorough introduction where they can become confident in what they were learning before going on to the main activity. Therefore, within this research we are focusing on improving children's engagement by creating a stimulating and interactive introductions within the lesson study that will not only engage the children but also support children in their learning by creating fun and memorable experiences.

Research Context

The research was conducted within two schools across three Key Stage two classes. The first research lesson took place in a year 5 class within a large school in a busy area within the Vale of Glamorgan. 12% of children within the school are identified as having free school meals which is significantly lower than the national average of 20% (Welsh Government, 2017). The school holds approximately 700 children and is a three form entry, the class observed had 30 children. The second lesson study took place within the same school but took place in a year 6 classroom, which also has 30 children. The third lesson study took place within a Year 3 class in a quiet suburban area within the Vale of Glamorgan. Within this school, 9.5% of children are identified as having free school meals which is also lower than the national average (Welsh Government, 2017). This school holds approximately 450 children and the class observed had 28 children.

As a triad, we decided upon our research question by identifying what was important to us as teachers and we found that, we all wanted to improve the engagement of

children within our classes in order for them to learn more effectively. Upon discussion with the triad, it was decided that two of the three classes needed to implement more interactive activities within their lessons as they were more teacher-led and rarely used child-led approaches. The third class taking part within the research had already implemented some interactive activities within their lessons but had not yet assessed the impact it made on the children. The literature surrounding the use of interactive activities implemented within lessons was very positive, which is why it was decided to investigate the use of these interactive activities and if they could improve the engagement of children within lessons.

Literature Review

According to Zepke and Leach (2010), pupil engagement can be defined as learning with active participation, emotional commitment and cognitive investment. It is absolutely essential that children engage with their learning, as if they are not committed and motivated within the classroom they will not learn effectively (Bender, 2017). This is supported by Donaldson (2015) who suggests that teaching and learning should be stimulating and encouraging within the curriculum. The focus of this assignment is to look at raising children's engagement through participating in lessons which involve interactive and engaging introductory activities. This will allow children to learn more effectively and remain engaged throughout the lesson.

In order to increase learners' engagement within lessons, Marzano (2007) suggests that five concepts must be incorporated into lessons: high energy, missing information, mild controversy and competition, the self-system and mild pressure. High energy is the concept in which movement should be incorporated within lessons, it allows children to process learning more efficiently and create more memorable experiences (Holt, 2009). Missing information within lessons allows children to become more curious and therefore more engaged within the lesson, it is important to facilitate learning for children so they are able to reach answers on their own (Wouters and Oostendorp, 2017). The mild controversy and competition concept would allow for more problem solving within lessons and add fun and excitement to activities, this will engage children as competitive activities can help children to develop important skills for the future such as empathy and tenacity

(Tough, 2016). The self-system concept is to create lessons for children that they will find stimulating by tailoring lessons to what their personal interests, this will engage the children further as Brown (2017) suggests that all teachers should motivate children by making learning a more interesting and exciting experience. The mild pressure concepts aims to improve the children's attentiveness through using time limits and questioning, as, if children feel a slight pressure during an activity they will become more engaged and motivated to do well (McTighe and Wiggins, 2013).

Marzano's (2007) concepts can only be met if children are provided with stimulating and interactive activities within lessons in order to engage them fully. Children should be provided with lessons where they are able to learn actively and experientially, this is shown through learning within the Foundation Phase which encourages children to explore concepts and solve problems in a more creative and imaginative way which makes learning enjoyable and effective (Welsh Government, 2018). This is supported by Donaldson (2015) who recommends that schools extend the foundation phase pedagogy and philosophy to Key Stage two as it has been found successful in increasing children's engagement within lessons. This can be done within Key Stage two classrooms by creating activities that are more interactive and interesting for children.

Interactive activities are used within introductions of lessons in order to engage and stimulate children from the beginning. This is supported by Confer and Ramirez (2012) who suggests that when teaching introductions, it is essential that it orients learners to the focus of the lesson, connects to previous learning and also to assert the importance of the idea. This indicates the importance of engaging children within lesson introductions as this allows teachers to model or surround children with a new skill or concept, help children to build foundational knowledge and also build upon their experiences in order to learn effectively (Confer and Ramirez, 2012). Also, it is important that within these activities, teachers are challenging children and stimulating their minds in order to engage them further as they should embody high expectations for children and give them confidence to engage with intellectual challenges so that when they grow up they can thrive in the face of unknown challenges (Donaldson, 2015).

Introductions that aim to engage children from the start are usually called ‘hooks’, they are designed to immediately engage children and help them to be ready to learn as soon as they enter the classroom (Aberson and Light, 2015). This coincides with Beirne and Velsor (2012) who propose that the ‘hook’ of the lesson creates a starting point for children which allows them to construct meaning. The hook gets children thinking about the topic, forms pathways between prior knowledge and new knowledge and hooks children and gets them interested in the lesson (Beirne and Velsor, 2012).

Also, another strategy used within schools to engage children within the introduction of a lesson are ‘carousel’ activities, where students work in small groups and move to different stations around the classroom which each have different activities surrounding one particular topic. This is a pedagogical strategy based on the Foundation Phase approach which meets the needs of children through developmental, experiential and active learning (Welsh Government, 2016). This is supported by Donaldson (2015) who suggests that the existing Foundation Phase has evident strengths in which the curriculum reform should build upon in order to improve progression and engagement within children. By following a ‘carousel’ approach, learners can benefit from participating in a variety of activities that consolidate and develop their learning about a topic in many different ways (Eastwood *et al.*, 2009). Furthermore, working within small groups encourages peer learning and collaboration, which is beneficial for children as it involves the sharing of ideas, experiences and knowledge (Vass and Littleton, 2010). This supports Vygotsky’s (1978) theory of the ‘Zone of Proximal Development’ which suggests that children can learn from anyone who is more knowledgeable than themselves such as their peers, as the new information allows the individual to move from their actual developmental level to their potential level of development.

Although, Sewell (2018) suggests that collaborative learning can have a negative effect on some children as it can lead to unequal participation and disengagement. This can then lead to negative behaviours such as disruption, which can be caused by boredom within lessons or activities (Prensky, 2005). It is essential that poor and disruptive behaviour is addressed within the classroom as it reduces children’s ability to concentrate and absorb information (House of Commons, 2011).

Methodology

The literature review suggests, that the aim of the research study has been conducted to assess how children's engagement can be improved through the use of interactive activities within a classroom. Through the process of this study, fundamental themes have been examined that encompass the research question such as the importance of engaging children within the classroom and how it can be improved through the use of interactive activities. To assure that the data obtained within the study is both valid and reliable, ethical issues have been considered and all methods used have been triangulated.

Purposive sampling method was chosen within this study, as it allows the sample of participants to be purposefully chosen as they would have a relevant and specific type of experience, characteristic and understanding to share (Macnee and McCabe, 2008). This is because, as a group, we have chosen our sample of participants by identifying the attainment of children's learning and selecting children who are identified as being of low, middle and high ability. This is so that we are able to monitor children's engagement who are of a variety of abilities to ensure that our research remains valid and reliable. The chosen participants would be able to provide meaningful evidence for the study, as, purposeful sampling allows a sample of participants to direct the focus of the research by providing relevant knowledge (Kratwohl, 2009).

This study has used qualitative data, which is primary research that usually aims to understand opinions, motivations and underlying reasons (Yin, 2016). This research has been used within the form of lesson studies, observations and focus group interviews to access the thoughts, feelings and experiences of the participants. This coincides with Silverman (2016) who states that qualitative research is crucial when conducting social science research as its purpose is to explore the motives of human behaviour.

Dudley (2015) advocates the effectiveness of lesson study research within schools and recommends its use for teachers as part of their Continuous Professional Development (CPD). Lesson studies are a form of action research, used by teachers, which identifies any trends of underachievement within learners and then aims to improve these trends over a sequence lessons (Dudley, 2014). The lessons

used within the study are specifically planned in order to collect data in which teachers can discuss, reflect upon and improve in between each lesson. (Pollard *et al.*, 2014). Following this, Dudley (2015) suggests that by using lesson studies, the process will allow teachers to improve the children's learning within the classroom. Cordingley *et al.* (2004) also supports the use of lesson studies and suggests that it combines all the characteristics of professional learning that most improve teaching and learning. Although, it has been anticipated that challenges may arise with conducting the lesson study. Chokshi and Fernandez (2004) highlights that care must be taken when working within groups as this study requires professionals to provide constructive criticism of each other's lessons. This is important to keep in mind as this study involves a triad of professionals

Within the lesson studies, the main form of data collection will be through conducting non-participant observations to observe the participants' development and behaviours within a natural setting (Simpson and Tuson, 2003). These observations were used within the study to observe whole-class engagement within the lesson but focused on the observations of the sample of the three chosen children who also contributed in the focus group interviews. The observations aimed to identify the engagement of children not only throughout the lesson, but also any differences between children's engagement from the introduction of the lesson to the main activity. An observation template was created prior to the lesson study which allowed narrative observations to be written about the participants which provides detailed observations and includes the facts of what has happened (Sharman, Cross and Vennis, 2004). Granting this, DeWalt and DeWalt (2011) suggest that despite observations being an effective method of research, it should not be the sole method of research as it may affect the accuracy of the study. Although, as this research uses both lesson study observations and focus group interviews the research becomes more reliable and valid due to the use of 'investigator triangulation' which analyses and compares the research using multiple researchers within the study (Greene, 2007). Within the observations, the level of children's engagement was assessed using Leuven's Scale of Involvement (Laevers, 1994) (Appendix 1) which consists of a five point scale from 1-5, 1 being the lowest level of engagement and 5 being the highest, this scale accompanied the observation forms so that the children could be assessed accurately.

Focus group interviews have been used within this research in order to gain information from participants within the lesson study on what they thought of the lesson and to find out if the interactive activities within the lesson improved their engagement. Boyce and Neale (2006) define interviews as a method that explores the perspectives of participants on a specific situation, programme or idea. Interviews have proven to be an effective method within research as talking has found to be easier for participants as it allows them to more easily communicate their ideas in an efficient and meaningful manner (Gillham, 2007). Focus group interviews have been conducted with a sample of three children within each lesson study. The interviews have been conducted directly after each lesson study in order to gain the participants opinions on the lesson and their engagement. The interviews will be recorded via a recording device in order to ensure that all the data is collected accurately.

Interviews conducted within the study have been structured, meaning that the questions have been created before the study has taken place. Research suggests that by using structured interviews, it allows the research to contrast and compare answers from the focus group more efficiently and effectively (Wengraf, 2001). Although, it was discussed that the focus group interviews may become more semi-structured providing upon the detail if the answers given. Galetta (2013) suggests that semi-structured interviews can enhance the reliability of the research as it allows the participants to be asked further questions in order to clarify or expand on what they have already said. No questions within the focus groups interviews were unstructured, as it permits bias and unreliability (Frick, Barry and Kamphaus, 2009). Open-ended questions were used within the focus group interview, as they require the thoughts, opinions and experiences of the participants which is important within this research as it looks to improve the engagement of the participants within the lesson (Babbie, 2009). This is supported by Cournoyer (2016) who suggests that 'open-ended' questions are more valuable within research than 'closed-ended' questions as it facilitates exploration and provides a more extensive response.

In order to develop the literature review of this study, secondary data was gathered from a variety of existing sources before the research had taken place. This allowed for similarities and differences to be identified within the review and research

gathered within the study, which enabled arguments made within the review to be validated (Vartanian, 2011). Sekaran and Bougie (2016) suggests that gathering secondary data is beneficial to a research as it supports the researcher in focussing the methodology and allows the data to become more meaningful. Research suggests the importance of collecting primary data after the secondary data has been collected as it allows the researcher to address specific issues and requirements whilst collecting the primary data (Kumar, 2008). This coincides with Belk (2006) who proposed that gathering primary data is essential within research as it asserts the reliability and validity of data which is more up to date and trustworthy than of secondary data.

The methodology of this research provided the study with a detailed plan into gathering data using a lesson study research and focus group interviews. This provided structure to the research, which created a more valid and reliable outcome for the study. The validity and reliability of the study was constantly assured through detailed discussion between the triad and by also triangulating the data using multiple researchers and repeating the lesson study process through three different key stage two classes and interviews. Throughout the duration of this study, ethical issues were adhered to by abiding by the British Educational Research Association Guidelines (BERA, 2011) and also the university's Research Ethics and Integrity Code of Practice (UWTSD, 2017).

Ethical Considerations

Throughout the study, it is crucial that the researcher must display an ethic of respect and freedom towards the participants involved in the research when gathering data (BERA, 2011). Before collecting any data for the study, a research ethics form was completed in order to address any potential ethical problems that may arise during the study (Appendix 2). Wester (2011) supports this and claims that attention should be paid to sensitive matters before any research can take place. Also, before the study, the purpose of the research and its intent was explained to all participants, along with their rights as participants which is that they may withdraw from the study at any time (Aubrey et al., 2000).

A parental consent form (Appendix 3) was sent to all parents/guardians of the children taking part within the lesson study to sign consent for their children to

participate within the lesson study and upon request, the focus group interviews. It was also explained to the participants of the lesson study that they would remain anonymous throughout the research, which did not go forth until all participants were aware of what was being asked of them and what they would be required to do. The participants were also made aware that they were able to withdraw or refuse to participate within the research and that assent would be gained not only verbally by the children, but also through silence, body language etc. The confidentiality and anonymity was assured throughout the study by using pseudonyms rather than names for both the participants and the schools taking part in the study, and by also storing the research data on a password protected computer or USB memory stick in order to protect the participants and their contributed information (Hitchcock and Hughes, 1995). When involving children in participatory research, ethical issues must be considered due to their status as vulnerable (Babbie, 2009). Although, these issues have all been addressed within the research ethics form and also by gaining verbal consent from the 'gatekeeper' of the participants, which is the class teacher, who can be defined as someone who regulates access of participants who are within their care (McFadyen and Rankin, 2016).

Lesson Studies

Within the lesson study, three lessons were taught to three different Key Stage 2 classes which all focused on growth mind-set using a differentiated lesson plan (Appendix 4). Although the lesson focused on growth mind-set it was literacy based, the children were required to either write a letter or 'top-tips' depending on their ability. The first lesson took place within school A and was taught by one member of the triad, who was familiar with the children within the class, whilst the other two members observed. Focus group interviews then took place, where after, the triad reconvened to reflect upon the lesson and make changes if needed. The second lesson was taught within the same school, where the triad roles were rotated so that the learners' would be familiar with the teacher. Again, focus group interviews were held and changes were made in preparation for the final lesson. The final lesson took place within school B with the last of the triad teaching, whilst the other members observed the lesson. The last focus group interview then took place and then we reflected upon the lesson study as a whole.

Lesson Study 1

The lesson started by giving the children a challenge to complete where the children were given an allotted time to create an origami rabbit, although, the challenge was purposely created to be very difficult in order to get the children to start thinking about what sort of mind-set they had such as if they gave up or persisted. It was observed that most children persisted to complete the activity within the time they were allotted, although, some children did seem to give up. This challenge really engaged the children and fed back within the interview (Appendix 5) that it was their favourite activity of the lesson as they got to have fun but were also challenged. This supports Donaldson (2015) who asserts that teachers should embody high expectations for children and give them confidence to engage with intellectual challenges. Using Leuven's (Laevers, 1994) Scale of Involvement, it was found that the participants observed all scored either level 4 or 5 which shows that they were highly engaged within the activity (Appendix 8).

The children were then asked to use thumbs up/down cards in order to show how they felt when they were asked about the difficulty of the task and also when introducing the concept of a growth mind-set. When conducting the interviews, it was fed back that the children enjoyed using these cards as it was a different and fun way of showing their ideas.

During the carousel of activities, it was observed that behaviour within the class had deteriorated and children became disrupted and fussy. This caused an issue with the timing of the lesson and so the main activity had to be changed from writing a letter to instead writing top-tips on growth mind-set. Although, as the children were mostly engaged within the carousel of activities, they were able to grasp the concept of the main activity and use this new information in order to complete the task. This coincides with Confer and Ramirez (2012) who suggests it is vital for children to be engaged within an introduction of a lesson as it orients learners to the focus of the lesson and helps them to build foundational knowledge and build upon their experiences in order to learn effectively.

It was also observed that, during some of the group work activities, some of the children had become disengaged and withdrawn within activities and stopped participating within the group discussion. This can be supported by research that

suggests that not all collaborative work is beneficial for children as it can lead to unequal participation and disruptive behaviour (Sewell, 2018; Prensky, 2005). Although, it was also observed that the children who seemed disengaged whilst working on collaborative activities were considerably more engaged when working individually. Although, when interviewed the participants within the focus group all stated that they preferred the activities where they worked within groups rather than individually. This can be supported by Bender (2017) who suggests that observing engagement is difficult within research as it is usually measured in terms of eye-contact, although, it is possible for children to look at something without being engaged with the content and also for children to engage with the task given to them without being apparent.

When reflecting upon the lesson, it was decided that for the following lesson the 'carousel' of activities should be more brisk and energetic and so the allotted time was shortened to create a more fast-paced environment. Research suggests this will benefit the children as the pressure will encourage them to become more attentive and motivated to complete the activities (Marzano, 2007; Mctighe and Wiggins, 2013). Also, it was observed that all of the groups of children within the class completed the 'brain sorting' activity too quickly, therefore, it needed to be extended and adapted to become more challenging for the children. Upon discussion with the triad, a question sheet was created to accompany this activity which would allow the children to collaborate and discuss different scenarios.

Lesson Study 2

Once again, the introductory challenge of the lesson was enjoyed by the whole class who all had an eagerness to complete the activity, however, it was pleasing to see that within this lesson more children persisted in completing the challenge rather than giving up. This corresponds with research that argues the importance of tailoring activities to the personal interests of children as it creates more interesting and exciting experiences for children (Marzano, 2007; Brown, 2017). It was evident within the observations that the children were very stimulated and excited by the challenge. During the focus interview (Appendix 6), when asked what they most enjoyed about the lesson and what their favourite activities were, again, participants said they enjoyed the origami rabbit activity as even though it was a challenge they

found it fun to do. This challenge acted as the 'hook' of the lesson which immediately engaged the children and created a starting point for the lesson where the children could construct meaning (Aberson and Light, 2015; Beirne and Velsor, 2012).

The children were, again, asked to use the thumbs up/down cards to display their feelings on the questions being asked of them. This activity engaged the children and was enjoyed by the participants as one had said during the focus group interview (Appendix 6) that they had enjoyed using the cards as it was a different way of expressing their thoughts and feelings towards the subject. It was surprising to see that such a short and simple questioning activity using resource cards was so effective in engaging the children within the lesson.

During the 'carousel' of activities, it was observed that the changes made to the timings of the activities following the previous lesson worked very well and seemed to engage the children further by creating a more energetic and fast-paced environment. This could be due to not allowing the children enough time to deter or disengage from the tasks. It was clear that within this lesson study, the children were highly engaged as they were actively participating, emotionally committed and invested cognitively (Zepke and Leach, 2010). It could be observed that the class had very competent learners who are focussed within the classroom and frequently show engagement within their learning. The whole class showed positive behaviours by not disrupting others and tried their best to complete the activities given to them.

As the timings of the lesson had been improved within the lesson study, it allowed more time for children to complete the main activity of the lesson which was to write a letter addressed to a future pupil on how they can gain a growth mind-set using examples of how the children have done this themselves. The children were given a template letter that models what is expected of them, the children used this to gain ideas and get a clear idea of what they had to do. Most of the children within the class worked individually during the main task, other children worked together to discuss the task but most, if not all, children were highly engaged with the activity. This is shown through the observations of the participants as they all scored either a 4 or 5 within Leuven's Scale of Involvement (Laevers, 1994) (Appendix 9). When asked during the interview, if the introductory activities improved their understanding of what they were learning, all children said that the activities did improve their

understanding which allowed them to engage with the main activity as they had gained an understanding of growth mind-set during the introduction of the lesson (Appendix 6).

Within this lesson study, it was evident that the children worked more collaboratively within their groups during the lesson. This could be seen by one of the children within the focus group who was of a higher attainment than the rest of the children in the group, as she would help others by explaining the task, modelling her answers and leading group discussions. This is supported by the theory of the 'Zone of Proximal Development' which suggests that learners who are more knowledgeable are able to support others and further their learning (Vygotsky, 1978).

Upon reflection of this lesson study, it was decided that the pace of the lesson and the adapted 'brain sorting' activity was going to remain the same within the next lesson study as both worked very well. Although, some parts of the lesson needed to be differentiated as the third lesson study took place within a lower Key Stage two classroom, such as, the video that introduces 'growth mind-set', the main activity of letter writing and also the questioning used to support the children in the learning. The data collection may also need to be adapted such as the focus interview questions to ensure that the participants understand what is being asked of them. Although as the third member of the triad is familiar with the children and year group, it was not difficult to adapt the planning.

Lesson Study 3

During the introductory challenge of the lesson, it was observed that the children were more likely to give up than within the other lesson studies. It is believed that this is due to the age of the children and that they were not yet familiar with the analogy of 'growth mind-set' being used. Although, at the start of the challenge the children seemed very engaged and eager to complete the activity which created a healthy competitiveness within the children which adds fun and excitement to activities (Marzano, 2007). Even though the whole class seemed engaged and excited by the challenge, when interviewed, two of the focus group participants said they this was their least favourite activity as it was too challenging so they could not complete it (Appendix 7).

The video shown within the other lesson studies has been changed in order to adapt the lesson to a younger audience. Although the children enjoyed the video, it is thought that it did not explain the concept of 'growth mind-set' as well as the other video had within the other lessons which could have slightly hindered the children's understanding.

During the lessons carousel activities, it was observed that the children showed regular engagement and enjoyment when partaking in the activities and rotating to the different stations of activities. As the timings of the carousel followed the previous lesson study it, again, worked really well with the children as it generated an energetic environment and did not allow enough time for children to deter and disengage from the activities. Although, during these activities the behaviour within the class had deteriorated and caused children to fuss when moving to different stations which took up some time within the lesson.

As the main activity needed to be differentiated for the children, it was decided that the children create 'top tips' on how to gain a growth mind-set and turn away from having a fixed mind-set. Again, Leuven's scale of Involvement (Laevers, 1994) has shown that the focus group of participants within the study all scored either a four or five which shows high engagement levels (Appendix 10). This is believed to be caused by the carousel activities as the variety and difference of activities were able to consolidate the children's learning and understanding. Although, the children's understanding of the term growth mind-set can be questioned as when analysing the participants work it seemed that the children found it difficult to create the 'top tips'. But, considering the age of the children, it is viewed that they did very well within the lesson but may need to revisit the topic again further in the future to fully understand the concept.

Discussion

The majority of the findings within the study have found to coincide with the review of literature and indicate that for pupils to be engaged within lessons they must be actively participating, emotionally committed and invested cognitively within their learning (Zepke and Leach, 2010). This supported the triad when observing the children's engagement as it allowed us to create an aim for the level of engagement

we wanted to gain within our lesson studies and a checklist for what engagement should look like. This along with Leuven's (Laevers, 1994) scale of Involvement which has allowed us to level the engagement of all children in general, which supported us when comparing and reflecting upon each lesson study and whether using interactive activities has improved the children's engagement within each lesson study.

Research has indicated that in order to engage children, teaching and learning should be stimulating and encouraging within the curriculum (Donaldson, 2015). And so, we used the pedagogy of the Foundation Phase curriculum to support us in creating activities which allowed the children to learn in a more active, creative, imaginative and experiential way (Welsh Government, 2018; Donaldson, 2015). This can be shown within the lesson studies as we have used interactive activities within the introduction of the lesson that orients learners to the focus of the lesson and asserts its importance, helps children to build foundational knowledge and to build upon their experiences (Confer and Ramirez, 2012).

The 'hook' of the lesson immediately got the children engaged and interested within the lesson, this built the children's curiosity and excitement for the next part of the lesson. This activity had outstanding feedback from the participants and was observed to be very effective within the lesson as it hooked the children and got them interested in the content (Beirne and Velsor, 2012). The carousel of activities was observed to also be very effective in raising the children's engagement within the lesson following the five concepts of engagement which were to include movement and high energy, create curiosity in children, use of healthy competition, connect with the children's interests and also allow for mild pressure within lessons (Marzano, 2007).

By using interactive activities within the lesson it has enabled children to consolidate and develop their learning in a variety of ways that meet all children's learning styles and using different teaching and learning strategies (Eastwood *et al.*, 2009). And so, it is recommended that Key Stage two classes begin to use more interactive activities within their lessons in order to improve children's learning through engagement. This can also be seen within Donaldson's (2015) 'Successful Futures'

where he advocates the importance of schools extending the Foundation Phase pedagogy in order to further engage children within their learning.

Conclusion

This research focused on how lesson studies can be used to identify whether children's engagement could be improved through use of interactive activities. In particular, the study concentrated on analysing and modifying a sequence of lessons in order to improve the engagement of children within schools that do not necessarily use interactive activities within lessons. Within the lesson studies, it was identified that the use of interactive activities not only improved the children's engagement throughout the whole of the lesson, but also consolidated their understanding ensuring that they were able to complete the tasks set for them. As the research used a triangulation research approach, it allowed us to identify areas for development which we were able to analyse and modify before each lesson so that it ensured progression and a more valid and reliable study. This is supported by Greene (2007) who suggests that when research uses 'investigator triangulation' it increases the reliability and validity of the research as it allows for collaboration with a variety of data collection methods.

The use of the lesson study design has found to be beneficial within this research. It allowed us to focus on and improve a specific issue within the participating schools which provided real life contexts within classrooms which allowed us to collect the data needed to address the issue. I found working with other professionals within a triad very productive and invaluable to the research, as we were able to discuss ideas which was essential in refining the lesson study process. Within the triad, it was agreed that repeating the lesson study was imperative in order to conclude our research through meaningful discussions and reflections upon each study. It should also be noted that due to the nature of this lesson study, the findings of the research could not be generalised as any issues that arose were specific to the learners' within the class. The three classes that participated within this study were all of different year groups meaning that they also contained children with different attainment levels which may have altered the results of the findings.

However, as the findings were still triangulated by a triad of investigators and a variety of data collection methods were used it increases the reliability and validity of the research (Greene, 2007). Interviews were used within this study in order to collect the thoughts, opinions and experiences of the participants which was crucial within the research as it looked to improve the engagement of the participants within the lesson studies (Babbie, 2009). Although, the interviews offered some mixed results within the lesson studies that either substantiated or contradicted the research, for example, some children seemed to show no engagement within an activity but the interview identified that it was in fact, their favourite activity and vice versa. Upon reflection, it was found that although the focus group interviews supported the findings within the study, the main discussion of findings within the data was used through the lesson study observations as they included the facts of what had happened within the lesson studies (Sharman, Cross and Vennis, 2004), whereas, the interviews only provided the participants thoughts and feelings. Granting this, DeWalt and DeWalt (2011) suggest that observations should not be the sole method of research as it can affect the accuracy of the research. And so in conclusion, when observations and interviews are used together, it creates a more valid and reliable study that consolidates the research within the literature review.

This study has allowed me to highlight the importance of using interactive activities within lessons as they have found to not only improve the engagement of children but also support them in their learning by consolidating their understanding through a variety of approaches such as the use of a 'hook' and 'carousel' activities within lessons. Within my next school experience, I will ensure to adapt Foundation Phase approaches such as the interactive activities used within this research and adapt them for Key Stage two children as they have proven to be effective in improving the engagement of children. Consequently, this will allow me to engage within Donaldson's (2015) curriculum reform and become equipped when the new curriculum comes into place.

Recommendations

Due to the small-scale of this research, time constraints were an issue within the study and so it is recommended that this study be shared with other professionals to

continue the research to identify a sound connection between the use of interactive activities and the improvement of engagement within their own classrooms. This will demonstrate the importance of improving children's engagement within schools as research suggests children cannot learn effectively when they are not interested in what they are learning (Bender, 2017).

It is also recommended that, following this research, teachers should adopt and adapt their own interactive activities within lessons in Key Stage two classrooms as the literature review would suggest that it is substantially beneficial to children's learning and engagement (Confer and Ramirez, 2012). In order to address the issue of engaging children within lessons, it must be ensured that lessons are provided that involved active participation, emotional commitment and cognitive investment (Zepke and Leach, 2010). It is absolutely essential that children engage with their learning, as if they are not committed and motivated within the classroom they will not learn effectively (Bender, 2017).

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Appendices

Appendix 1 – The Leuven Scale of Involvement

The Leuven Scale for Involvement

Level	Well-being	Signals
1	Extremely low	Activity is simple, repetitive and passive. 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.
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. They 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 2 – Ethics Form



PG2 / E1 FORM

APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity. Please see Checklist for details of process for different categories of application.

SECTION A: About You (Principal Researcher)

Full Name:	Chanelle Johnson				
Tick all boxes which apply:					
Member of staff:	☐	Student:	☒	Honorary research fellow:	☐

Faculty/School/Centre:	Yr Athrofa				
Campus:	Townhill				
E-mail address:	1700208@student.uwtsd.ac.uk				
Contact Telephone Number:	07811760551				
For students:					
Student Number:	1700208	Undergraduate	☐		
Programme of Study:	Primary PGCE	Taught Postgraduate	☒		
Director of Studies/Supervisor:	Dr Ceri J Lewis	Research	☐		

SECTION B: Approval for Research Activity

Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)		YES	☒	NO	☐
					Date
If Yes, please indicate source of approval (and date where known):	Research Degrees Committee		☐		
	Faculty Research Committee		☐		
	Other (Dr. Ceri J Lewis)		☒		28/2/18

Approval in principle must be obtained from the relevant source prior to seeking ethical approval.

SECTION C: External Ethical Guidance Materials



Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines.

BERA (2011) 'Ethical Guidelines for Educational Research' Available at: https://www.bera.ac.uk/wp-content/uploads/2014/02/BERA-Ethical-Guidelines-2011.pdf?noredirect=1 (Accessed: 21 st February 18).	☒
UWTSD (2017) 'Research Ethics & Integrity Code of Practice' Available at: http://www.uwtssd.ac.uk/media/uwtssd-website/content-assets/documents/research/research-ethics-integrity-code-practice.pdf (Accessed: 23 rd February 18).	☒
Education Workforce Council (2017) 'Code of Professional Conduct and Practice for Registrants with the Education Workforce Council' Available at: https://www.ewc.wales/site/index.php/en/fitness-to-practise/code-of-professional-conduct-and-practice-pdf/file (Accessed: 21 st January 2018).	☒

SECTION D: External Collaborative Research Activity

Does the research activity involve collaborators outside of the University?	YES	☐	NO	☒
If Yes, please provide the name of the external organisation and name and contact details for the main contact person:				
Institution				
Contact person name				
Contact person e-mail address				

Where research activity is carried out in collaboration with an external organisation

Does this organisation have its own ethics approval system?	YES	☐	NO	☒
If Yes, please attach a copy of any final approval (or interim approval) from the organisation				

SECTION E: Details of Research Activity

Indicative title:	How can we improve children's engagement through use of interactive activities within a Key Stage 2 classroom?		
Proposed start date:	March 2018	Proposed end date:	April 2018
Purpose of research activity (including aims and objectives) Outline the purpose, aims and objectives of the research activity, including key research questions. Show briefly how existing research has informed the proposed activity and explain what the research activity will add and how it addresses an area of importance. (Maximum 300 words)			
For this study, We have decided to research whether interactive activities such as effective and engaging introductions, motivate children and engage them in their learning. I am very interested in this topic and want to, as a practitioner, motivate and engage children in their learning by creating motivating and interesting interactive activities. I believe this research will enable me to improve as a practitioner as I will be putting the whole child into perspective and finding solutions that will help children to learn more effectively. The research aims to find out whether interactive activities within the introduction of the lesson allows children to become more motivated and engagement throughout the rest of the lesson. The importance of engaging learners within lessons is supported by Donaldson's (2015) curriculum review which suggests that teachers should encourage enjoyment, stimulating and engaging teaching and learning. A research has also shown that 'children and young people want lessons to be more relevant and engaging, with more practical lessons, more fun, more interactivity, and more out-of-classroom activities' (Donaldson, 2015; 17). Donaldson, G. (2015) <i>Successful Futures: Independent Review of Curriculum and Assessment Arrangements in Wales</i> . Cardiff: Crown Copyright.			
Proposed methods Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are			

deemed appropriate later, additional ethical approval for those methods will be needed. (Maximum 600 words)

Within this study, we will be researching whether interactive introductions engage children in their learning. This will be done through a lesson study process where, together, we will create a lesson plan and take it in turns to teach to a class. Each time the lesson is taught it will be reviewed and adapted to identify the issues and make improvements. The aim of a lesson study usually involves teacher's collaboratively planning, teaching, observing and analysing, learning and teaching in a research lesson where they can record their findings and innovate and refine their pedagogical approaches that will improve children's learning (Dudley, 2014). The lesson will be taught three times by each group member whilst the others will be using a variety of research methods to collect data for the research, such as interviews and observations.

Interviews – a small group of children from different Key Stage 2 classes will be involved in a semi-structured group interview where the children will be asked questions about the study. Semi-structured interviews can be very beneficial when collecting research as after completing the organised questions the participant can be asked further questions to expand or clarify what they had already said (Galletta, 2013). The children will be in an informal setting and the children responses will be noted down. Before the study I will gain assent from the children and also gain parental consent from the children's parents/guardians, the children will not be forced to participate in the research and can withdraw from the study at any time. In order to gain assent from the children they will be given a form in which they will write their names and state if they wish to take part within the study. The feelings of the children will be checked regularly and will be reminded that they can withdraw or not answer a given question at any time. The children's names will be kept confidential within the study and will remain anonymous within the research assignment using pseudonyms instead of names.

Observations – The research will be conducted through a non-participant observations which will be conducted in three different lessons by two members of our group whilst the other is teaching the lesson. Observations are carried out in order to observe participants behaviours and development within natural settings (Simpson and Tuson, 2003). Within the lessons we will be observing how interactive activities such as introductory 'hooks' and 'pit-stops' motivate and engage the children to learn within the lesson. The observations will be recorded within an observational notebook, which both the children and class teacher will have access to.

Audio taping – the group interviews with the focus children will be recorded after each of the lessons in order to record all information needed and to also keep the flow of the conversation/interview rather than stop to take notes after each question. I will ask permission from the children to record their answers before the interview begins. If any of the children do not wish to have their answers audio taped then we will take notes of their answers within a notebook.

Before conducting the research we will create a contingency plan in the case that any issues or difficulties arise, for example, if a child being interviewed or observed is absent on the day the research is taking place.

Galletta, A. (2013) *Mastering the Semi-Structured Interview and Beyond: From Research Design to Analysis and Publication*. London: New York University Press.

Peter Dudley (2014) Lesson Study: A Handbook. Available at: <http://lessonstudy.co.uk/wp-content/uploads/2012/03/new-handbook-revisedMay14.pdf> (accessed: 23rd February 18).

Simpson, M. and Tuson, J. (2003) *Using Observations in Small-Scale Research: A Beginners Guide*. Scotland: Scottish Council for Research in Education.

Location of research activity

Identify all locations where research activity will take place.

The schools in which the research study will take place are close in distance and are both situated within South Wales. The school in which I will be teaching is a large three form entry school in a busy town. The other school in which I will be observing is a two form entry school situated in a small village.

Research activity outside of the UK

If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural sensitivities or vulnerabilities of participants.

N/A

SECTION F: Scope of Research Activity

Will the research activity include:	YES	NO
Use of a questionnaire or similar research instrument?	☐	X
Use of interviews?	X	☐
Use of diaries?	☐	X
Participant observation with their knowledge?	X	☐
Participant observation without their knowledge?	☐	X
Use of video or audio recording?	X	☐
Access to personal or confidential information without the participants' specific consent?	☐	X
Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	X
Performance of any acts which may cause embarrassment or affect self-esteem?	☐	X
Investigation of participants involved in illegal activities?	☐	X
Use of procedures that involve deception?	☐	X
Administration of any substance, agent or placebo?	☐	X
Working with live vertebrate animals?	☐	X
Other primary data collection methods, please explain in this box	☐	X

If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

Who are the intended participants:	YES	NO
Students or staff at the University?	☐	X
Adults (over the age of 18 and competent to give consent)?	☐	X

Vulnerable adults?	☐	☒
Children under 18?	☒	☐
Prisoners?	☐	☒
Young offenders?	☐	☒
Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
People engaged in illegal activities?	☐	☒
Others (please identify):	☐	☒

Participant numbers and source

Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?

Within the lesson studies 3 classes will be observed whilst a member of the group is teaching. 2 classes are within the same school and both have 30 children, one class will be aged 9-10 and the other 10-11. The other school which we will be observing within will have a class of 28 children all aged between 7-8 years old. Within the focus group interviews we will choose three children in each class of differing abilities to identify their engagement throughout the lesson.

Information for participants:	YES	NO	N/A
Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
Will you tell participants that their participation is voluntary?	☒	☐	☐
Will you obtain written consent for participation?	☒	☐	☐
Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
If the research is observational, will you ask participants for their consent to being observed?	☒	☐	☐
Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☐	☐	☒
Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
If NO to any of above questions, please give an explanation			

Information for participants:	YES	NO	N/A
Will participants be paid?	☐	☒	☐
Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐

Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
If YES to any question, please provide full details			

SECTION H: Anticipated Risks

Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them. If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form. Full risk assessment completed and appended? Yes ☐ No ☒ Risks to participants For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information The main risk to participants is that they be involved within the research without consent given. And so, I will ensure that consent is gained from the school and parents/guardians of the children and also that we gain the children's ongoing assent to take part within the study. The university's Research Ethics & Integrity Code of Practice (2017) states that 'gaining informed consent is an essential element of ethically valid social research'. We will ensure to follow the safeguarding process and procedures of both the school and university to ensure that any risks to participants will be assessed and dealt with appropriately. Also, within the study, if any child wishes to withdraw during the process it should be noted that they will not be treated differently. UWTSD (2017) Research Ethics & Integrity Code of Practice. http://www.uwtssd.ac.uk/media/uwtssd-website/content-assets/documents/research/research-ethics-integrity-code-practice.pdf (Accessed: 23rd February 18). If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities N/A
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Risks to investigator For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest The risk to the researcher could be that I may be accused of unprofessional practice. Therefore, when completing the lesson study neither myself nor my partners will be alone with the children as we will each take it in turns to teach and observe each other. Also, when conducting the group interviews, they will be done in an open area with myself and my partners to ensure everyone's safety. All pupils will be treated equally within this research and will be done professionally. The risk will also be managed by adhering to the Education Workforce Council (2017) who state that registrants 'are committed to providing equal opportunities for all learners, regardless of their age, gender, sexual orientation, disability, additional learning needs, race, religion or belief' Education Workforce Council (2017) Code of Professional Conduct and Practice for Registrants with the Education Workforce Council. Available at: https://www.ewc.wales/site/index.php/en/fitness-to-practise/code-of-professional-conduct-and-practice-pdf/file (Accessed: 21st January 2018).
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University/institutional risks			
For example: adverse publicity, financial loss, data protection			
If I manage the risks the risks to the participants and researcher as above then there should be no risk to the university. Within this research it is important that the partners between the schools taking part and the university remain affiliated. It is also important that the good name of the university is to be upheld by following the university's Research, Integrity and Ethics Code of Practice (2017).			
UWTSD (2017) Research Ethics & Integrity Code of Practice. http://www.uwtsd.ac.uk/media/uwtsd-website/content-assets/documents/research/research-ethics-integrity-code-practice.pdf (Accessed: 23 rd February 18).			
Adverse outcomes			
List measures put in place to limit any adverse effects or outcomes of research activity where appropriate. Include any emergency protocols.			
I will manage all risks by adhering to BERA (2011) guidelines and also the universities Research, Integrity and Ethics Code of Practice (2017). I will ensure that I am always complying with ethical, legal and professional frameworks that is required by authorities as well as the schools safeguarding and health and safety procedures.			
BERA (2011) Ethical Guidelines for Educational Research. Available at: https://www.bera.ac.uk/wp-content/uploads/2014/02/BERA-Ethical-Guidelines-2011.pdf?noredirect=1 (Accessed: 21 st February 18).			
UWTSD (2017) Research Ethics & Integrity Code of Practice. http://www.uwtsd.ac.uk/media/uwtsd-website/content-assets/documents/research/research-ethics-integrity-code-practice.pdf (Accessed: 23 rd February 18).			
Disclosure and Barring Service			
If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	YES	NO	N/A
Has a DBS certificate been obtained?	X	☐	☐

SECTION I: Feedback, Consent and Confidentiality

Feedback
What feedback will be provided to participants, how will this be done and when?
Completed essay will be shared with the school head teacher on request and immediate feedback will be given to participants.
Informed consent
Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded.
Before the research takes place consent from the children's parents/guardians will be collected through a form created by Yr Afrotha, an explanatory statement will be read to the children to make them aware of what is being asked of them in order to gain their assent which will be gained using written statements. Ongoing assent will also be assessed throughout the process by reminding the children about their rights to withdraw from the study and refuse any questions they don't feel comfortable to answer. Consent will also be gained from the class teacher to conduct the research study. The university's Research Ethics and Integrity Code of Practice (2017) supports this and suggests that it is important that children should be actively engaged in the consent process and even when adult consent has been given the wishes of the child should prevail.
UWTSD (2017) Research Ethics & Integrity Code of Practice. http://www.uwtsd.ac.uk/media/uwtsd-website/content-assets/documents/research/research-ethics-integrity-code-practice.pdf (Accessed: 23 rd February 18).
Confidentiality / Anonymity

Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.
It will be explained to the children that they will remain anonymous throughout the study as no names will be included within the study or assignment. Their anonymity and confidentiality will be assured by using pseudonyms instead of names such as the school and names of children and staff and also by storing the research data on a password-protected computer and a USB memory stick to ensure that the participants and their information remained safe (Hitchcock and Hughes, 1995). The university's Research Ethics and Integrity Code of Practice (2017) suggests that it is important that the anonymity and privacy of participants should be respected and research records should be kept confidential. Also, the participant's right to remain anonymous should be respected.
Hitchcock, G and Hughes, D. (1995) <i>Research and the Teacher: A Qualitative Introduction to School-based Research</i> (2 nd ed). London: Routledge Falmer Press.
UWTSD (2017) Research Ethics & Integrity Code of Practice. http://www.uwtssd.ac.uk/media/uwtssd-website/content-assets/documents/research/research-ethics-integrity-code-practice.pdf (Accessed: 23 rd February 18).

SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwtssd.ac.uk/library/research-data-management/>).

	YES	NO
Does the research activity involve personal data (as defined by the Data Protection Act)? "personal data" means data which relate to a living individual who can be identified— (a) from those data, or (b) from those data and other information which is in the possession of, or is likely to come into the possession of, the data controller, and includes any expression of opinion about the individual and any indication of the intentions of the data controller or any other person in respect of the individual.	☐	☒

If YES, provide a description of the data and explain why this data needs to be collected:		
Does it involve sensitive personal data (as defined by the Data Protection Act)? "Sensitive personal data" means personal data consisting of information as to – (a) the racial or ethnic origin of the data subject, (b) his political opinions, (c) his religious beliefs or other beliefs of a similar nature, (d) whether he is a member of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) his physical or mental health or condition, (f) his sexual life, (g) the commission or alleged commission by him of any offence, or (h) Any proceedings for any offence committed or alleged to have been committed by him, the disposal of such proceedings or the sentence of any court in such proceedings.	☐	☒
If YES, provide a description of the data and explain why this data needs to be collected:		

Will the research activity involve storing personal data on one of the following:	YES	NO
---	-----	----

Manual files (i.e. in paper form)?	☐	☒
University computers?	☐	☒
Private company computers?	☐	☒
Home or other personal computers?	☐	☒
Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☐	☒
"Cloud" storage or websites?	☐	☒
Other – specify:	☐	☒
For all stored data, explain the measures in place to ensure data confidentiality, including details of password protection, encryption and anonymisation:		
No names will be used within the study to ensure that all participants remain anonymous and any information used will be kept on a password-protected USB.		
Will the research activity involve any of the following activities:	YES	NO
Electronic transfer of data in any form?	☒	☐
Sharing of data with others at the University?	☒	☐
Sharing of data with other organisations?	☐	☒
Export of data outside the European Union or importing of data from outside the UK?	☐	☒
Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
Publication of data that might allow identification of individuals?	☐	☒
Use of data management system?	☐	☒

Data archiving?	☒	☐
If YES to any question, please provide full details, explaining how this will be conducted in accordance with the Data Protection Act (and/or any international equivalent):		
The anonymity and confidentiality was assured by using pseudonyms instead of using names such as the school and names of children and staff and also by storing the research data on a password-protected computer and a USB memory stick to ensure that the participants and their information remained safe. Also, any data used will be archived on completion of the assignment.		

List all who will have access to the data generated by the research activity:
Myself and two partners (researchers)
List who will have control of, and act as custodian(s) for, data generated by the research activity:
Myself (researcher)
Give details of data storage arrangements, including where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.
The information used will be stored on a password-protected computer and a USB memory stick to ensure that the participants and their information remained safe. Also, any data used will be archived on completion of the assignment.

SECTION K: Declaration

The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants.

In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's [Research Ethics and Integrity Code of Practice](#)

Signature of applicant: *C. Pl*

Date: 26/2/18

For students:

Teacher / Senior Mentor:	<i>Lisa Law</i>
Signature:	<i>L. Law</i>
Date:	<i>26/02/2018</i>

Supervisor:	<i>Dr. Gw. Lewis</i>
Signature:	<i>G. Lewis</i>
Date:	<i>28.2.18</i>

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed ALL RELEVANT sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☐	I have attached a copy of final/interim approval from external organisation (where appropriate)
☐	I have attached a full risk assessment (and have NOT completed Section H of this form) (where appropriate)
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Head of School.

RESEARCH STUDENTS AND STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk, with the title 'Ethical Approval' followed by your name. You will be informed of the outcome of your claim by email; therefore it is important that you check your University and personal email accounts regularly.

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

Appendix 3 – Consent Form



Dear Parent/Guardian,

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

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

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

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

Yours faithfully,

Catherine Morgan
Module lead – The Enquiring Teacher

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

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

Date.....

Appendix 4 – Lesson Plan

Session Plan – Key Stage 2		
Year group: 3 / 5 / 6		No. of learners: 30 (year 5 and 6) and 28 (year 3)
Learning objective(s): To write a letter to a future pupil	Success criteria: - Think of a time when you found something difficult to learn. - Explain to the future pupil how you overcame this difficulty and what this taught you about having a growth mindset. - Advise the future pupil on how they can develop a growth mindset. - Use the correct structure of a letter.	
Time	Session activities, organization and management	Key questions
25 – 30 mins	Introduction Hook – Origami challenge - Pupils given 2 minutes to attempt to make the origami rabbit using instructions on the PowerPoint (pupils not expected to complete). - Growth Mindset quiz (use thumb resources) - TTYP - When you couldn't complete the origami, how did you feel? / When you completed the origami, how did you feel? Explain what a fixed mindset looks/sounds like Video - https://www.youtube.com/watch?v=M1CHPnZfFmU TTYP – What is the difference between a fixed and growth mindset? Carousel activities - 1 - Change your mindset sorting activity. Match each statement with the correct side of the brain. 2- All About Me (worksheet) Write or draw things you are good at or need improving. 3- Word definition activity. Write on to the bubble maps what each word means to you. 4- Scenario activity. Write on post-it notes how someone with a fixed/growth mindset would respond to each scenario.	Questioning: - When you couldn't complete the origami, how did you feel? - When you completed the origami, how did you feel? - What are your strengths? - How did you improve?
20 – 30 mins	Main activities Write a letter to a future pupil advising them how they can have a growth mind-set (activity can be differentiated by allowing children to write top-tips instead of letter). - Model answer given for guidance.	Assessment for Learning: Turn to your partner Pit stops Plenary

Appendix 5 – Interview Transcript 1

Focus group interview transcript

Child 1 – 1

Child 2 – 2

Child 3 – 3

What did you enjoy about the lesson?

1 – I liked sticking the thumbs cards in the air because it was fun and different to what we usually do.

3 – I liked how we had to write down our feelings on every single table and answer the questions

2 – yeah me too

So, you liked the introduction activities?

3 – Yeah

1 – I did too

What did you think about the activities at the beginning of the lesson?

2 – It was really fun that you made us make a bunny

1 – I enjoyed it even though it was complicated

3 – It was fun because it was a challenge

What did you learn in the lesson?

3 – We learnt that even if you can't do something just keep trying

1 & 2 – I agree

Did you feel that the introductory activities improved your understanding of what you were learning?

All – yes

Did you prefer the activities where you worked as a group or individually?

All – groups

Which of the activities where you most and least favourite and why?

- 2 – I liked the scenario one because you had to give your personal opinion
- 1 – I liked the origami rabbit
- 3 – I liked the all about me activity because we got to show what we think
- 3 – My least favourite activity was sorting the statements on the brain because it was done very quickly
- 1 – And it wasn't much of a challenge
- 2 – wasn't much of a challenge but was still fun

Did you feel that the activities within the introduction of the lesson made you more confident to complete the main activity?

- 1 – Because it gave us different ideas to write down and made us understand more
- 3 – Yes, it made us understand more
- 2 – I agree

This lesson is going to be taught to another class, what do you think we can do to make the lesson better?

- 3 – On the brain activity you could add more questions or make it more challenging
- 1 – ...yes because it was too easy
- 2 – Maybe you could put coloured paper on the origami
- 3 – You could add more questions on the all about me activity

Is there anything else you would like to say about the lesson?

- 3 – It was fun
- 1 – Yeah
- 2 – I agree

Appendix 6 – Interview Transcript 2

Lesson 2 - Focus Group Interview Transcript -

Interviewer - What did you enjoy about the lesson?

Child 1 – I really liked all of the activities where we went around the classroom and also making the origami bunnies

Child 2 – Making the bunnies but I didn't get very far.

Child 3 – I liked the quiz activity where we had to put our thumbs down or thumbs up so that you can express your opinion.

Interviewer - What did you think about the activities at the beginning of the lesson, so the activities where we rotated around, what did you think about those?

Child 1 – I think they were quite clever to get to know the things that we know better.

Child 3 – I liked them because they were all short and snappy and fun things to do.

Interviewer - What did you learn in the lesson?

Child 1 – I learnt about growth mindset and fixed mindset.

Child 2 – I learnt the same thing and how they affect different people.

Child 3 – I learnt that if you make a mistake it is not always bad, it is kind of good sometimes so that you learn more,

Interviewer - Did you feel the activities improved your understanding of what you were learning?

All – Yes.

Child 1 – I didn't really know anything about growth mindset.

Child 2 – Yes, I didn't know anything about it.

Interviewer - Did you prefer the activities where you worked in groups or the ones where you worked on your own?

Child 2 – I preferred the groups where we can interact with each other.

Child 1 – I preferred on my own because then I don't get distracted by others when doing my work.

Child 3 – I probably prefer on my own because then you can do it personally.

Interviewer - Rank the order of the activities, so which was your favourite to your least favourite and tell me why?

Child 1 – The favourite was the bunnies because it was fun to begin the lesson.

Child 2 – My favourite one was rotating around but favourite was the bunnies.

Interviewer- With the activities where we rotated around, which one of those was your favourite?

Child 2 - That brain one where we had to match.

Child 3 – My favourite was when you had to draw the pictures or write of what you're good at and what you need to be more confident with.

Interviewer - What was your least favourite?

Child 3 – My least favourite was the one where we had to match them up.

Interviewer - Why was that your least favourite?

Child 3 – Because we were able to do it really quick.

Child 1 – my least favourite was doing the creative things.

Interviewer - Did you feel the activities in the introduction of the lesson, so the ones we did at the beginning, made you more confident to complete the main activity? So, after doing those activities, did it make you want to complete the writing task more at the end?

Child 2 – Yes, because it made me know what I was going to write, because before them I was clueless.

Child 1 – They help us know what to write in the letter.

Child 3 – They changed my opinions on mistakes, before I thought mistakes were bad, but now I know if you do make a mistake to learn from it.

Interviewer – Da jawn. So the lesson is going to be taught to another class, what do you think we could do to make that lesson better?

Child 2 – maybe you could change the letter in to more of a fact file.

Interviewer – Great thinking. Is there anything else you would like to say about the lesson?

All – No.

Appendix 7 – interview Transcript 3

Transcript of Year 3 Focus Group Interview

Researcher – R

Child 1 – 1

Child 2 – 2

Child 3 – 3

R – What did you enjoy about the lesson?

1 – It was fun and fixed mind-set is about the ... the ... um I can't do it but then you can actually do it again.

2 – My favourite part of the lesson was probably the sticky note activity where you had to like write something down and then stick it on the growth mind set and the fixed mind set thing.

R – What did you enjoy?

3 – The brain one.

R – Ok, what did you think about the activities at the beginning of the lesson?

2 – They were difficult.

R – So what was the activity do you remember? It was the bunny rabbit wasn't it.

1 – It was difficult.

R – Do you all think that?

All children yes.

2 – At first I found it difficult and then when I thought I could try folding it out the other way it was easy, when I figured out that.

1 – I think it was just difficult, it was really hard.

R – What did you learn in the lesson?

1 – A mind set is a thing you can do but a fixed mind set is a thing when you think you have done but you don't need to do that now.

3 – So ummm, a fixed mind set is when you can give up and a growth mind set is when you keep trying at it.

R – Did you feel the activities helped improve your understanding of what you were learning?

All yes.

R – Did you prefer the activities when you worked in groups or on your own?

1 – Groups.

2 – On your own.

3 – Groups.

3 – I liked when you could draw so that's like half each, that was fun.

R – Ok, so half each, what was your favourite activity we did?

2 – Definitely bunny, definitely the bunny.

1 – I think the drawing one the same as 3.

R – Haha ok so what was your least favourite?

1 - I think mine was the bunny rabbit.

2 – The bunny rabbit.

R – That was your favourite wasn't it?

2 – Ye!

R – So what was your least?

2 – I am trying to think of the activities now?

R – So we had the brain one...

2 – Ooo probably the brain one.

R – Why?

2 – Because there was lots of them and it was quite hard. There were 2 ones we were really stuck on.

R – Ok so that was when you had to put them in growth mind set and fixed.

2 – Ye.

R – Ok, did you feel the activities in the introduction made you feel more confident to complete the main activities?

2 – Kind of.

R – Do you think the bunny rabbit one made you more confident?

1 and 3 – No

R – Ok, the lesson is going ... well it's not going to be taught to another class but how can we make it better? Because you guys are the last ones now to do this lesson.

3 – Wow are we?

R – Yes, how can we make it better? What do you think?

3 – If you talked a little bit more about it.

2 – I think if you spent more time on the activities too.

R –Ok, umm, is there anything else you would like to say about the lesson?

1 – It was really tremendous, and we learnt new things.

3 – Ye.

R – Ok thank you everyone.

Appendix 8 – Observation Notes 1

Observational Notes

Observation: Year 5

Lesson Study: 1

Leuven Scale for Involvement		
Children	Level (Introductory activities)	Level (Main activity)
Child 1	<u>Origami rabbit</u> : Level 5 - Listening very attentively to introduction. - Is eager to complete origami task and showing enthusiasm. - Responding well to questioning and engaged with quiz.	<u>Top tips</u> : Level 4 - Is talking with peers – does appear to be a discussion about writing. - Writing shows that she has begun to develop an understanding of growth mindset. - Writing is of good quality.
	<u>'All about me'</u> : Level 4 - Taking a while to settle down to task. - Once on task – appears engaged with task. - Discussing work with peers.	
	<u>Brain sorting</u> : Level 3 - Task completed as a group – finished very quickly. - Child has lost interest easily – talking with friends (not about lesson content).	
	<u>Mind maps</u> : Level 4 - Engaged well with task. - Eager find meaning of words she is unsure of – discussing with others in the group and reading previous responses to find meaning.	
	<u>Scenarios</u> : Level 4 - Fussy to begin with after moving on from previous task. - Once settled – engaging well with activity. Discussing and working well with peers.	
Child 2	Level (Introductory activities)	Level (Main activity)
	<u>Origami rabbit</u> : Level 4 - Very eager to begin origami challenge. - Engaged in origami, is talking to peers while completing it but remaining on task. - Teacher is talking to whole class – child is fussing with origami and distracting others around them. - Not engaged in TTYP – continuing to discuss and play with origami paper. - Some engagement with quiz.	<u>Top tips</u> : Level 4 - Completed writing task to a good standard. - Appears to be engaged. - Easily distracted by others around.
	<u>'All about me'</u> : Level 4 - Appears engaged with task. - Talking with peers but working individually. - Completes task with ease but remains engaged.	
	<u>Brain sorting</u> : Level 2 - Showing very little engagement. - Allowing others in the group to complete activity – happy to sit back and not engage. - Told by teacher to remain on task.	
		Additional Comments
	<u>Mind maps</u> : Level 3 - Loses interest very quickly. - Completes some of the task individually but then disengages. - Appears to have good understanding of vocabulary.	- This child is clearly very able to complete the activities. - Appears to work better individually and without the support of others. - During group activities they disengage with activity and allow others to complete it.
	<u>Scenarios</u> : Level 3 - Good responses to activity. - Disengaged very quickly once they believed that they had completed the task. - Not much discussion with group.	

	Level (Introductory activities)	Level (Main activity)
Child 3	<u>Origami rabbit:</u> Level 5 - Very attentive and engaged. - Eager to complete origami challenge. - Responds well to quiz and teacher questioning. - Appears enthusiastic to begin other activities.	<u>Top tips:</u> Level 5 - Instantly engaged in activity. - Very eager to 'show off' new knowledge of growth mindset. - Good standard of writing. - Communicating with others while working – sharing ideas.
	<u>'All about me':</u> Level 4 - Engaging in discussion with peers – comparing their strengths and weaknesses, and things they need to improve. - Sharing ideas of how to correct mistakes and improve themselves.	
	<u>Brain sorting:</u> Level 3/4 - Engaged well with activity - Discussing and sharing opinions with peers. - Completes task very quickly – quickly disengaged and talking to friends about topics unrelated to lesson.	
	<u>Mind maps:</u> Level 5 - Great engagement - Discussing responses with peers and sharing knowledge of vocabulary. - Is unsure of the meaning of some words but is searching for meaning from previous pupils' responses and is asking for assistance – clearly eager to develop knowledge.	
	<u>Scenarios:</u> Level 5 - Good group discussions – leading discussion and encouraging others. - Showing very good engagement.	<u>Additional Comments</u> - This child works well with others. - Engages very well when communicating and is eager to share and develop knowledge. - There was clear engagement throughout the lesson.
<u>Whole class comments:</u>		
- The class were quite fussy throughout the whole lesson – particularly when moving around the class to rotate activities. - It was clear that too much time was given for each activity which increased the fussiness of the class. - The whole class appeared to be engaged with origami challenge and were then enthusiastic for the rest of the lesson. - The origami paper did become a distraction for some during the lesson. - It is clear that most of the class work well with in groups and have a good skill of working and communicating as groups and with partners. However – some appear to prefer to work individually.		

Observation Form

Observation: Year 5

Lesson Study: 1

Leuven Scale for Involvement		
Children	Level (Introductory activities)	Level (Main activity)
Child 1	<u>Origami rabbit:</u> Level 5 • Appeared to be excited about the task. • Followed the instructions and remained engaged.	<u>Letter:</u> Level 4 • The child wrote a satisfying amount. • The child did discuss with her peers.
	<u>'All about me':</u> Level 4 • Child worked individually on task. • Did discuss work with others.	
	<u>Brain sorting:</u> Level 3 • The group appeared to finish early and the child lost interest.	
	<u>Mind maps:</u> Level 4 • The child had plenty to write for this activity. • Appeared to be mostly engaged.	
	<u>Scenarios:</u> Level 4 • Positive engagement.	<u>Additional Comments</u> Appears to be an enthusiastic child, often on task although at times can be discussing with others.

	Level (Introductory activities)	Level (Main activity)
Child 2	<u>Origami rabbit</u>: Level 4 - Initial engagement. - Followed instructions and completed. - Helped another child. - Showed others when she finished and perhaps put them off task.	<u>Letter</u>: Level 3 - Produced a good amount of work. - Often chatting with others. - On times looking around the classroom.
	<u>'All about me'</u>: Level 3 - Appeared mostly engaged. - On times off task.	
	<u>Brain sorting</u>: Level 2 - Did not work well in this exercise. - The group work must have put her off. - At one point had to be told by teacher to remain on task.	
	<u>Mind maps</u>: Level 2 Again struggled in the group environment.	
	<u>Scenarios</u>: Level 3 - Gave some good answers. - However again struggled in the group setting.	
		Additional Comments Initial assessment of this child was that they were very able to do the activities. However it was evident that this child lost interest in certain activities and at times was disengaged.
Child 3	Level (Introductory activities)	Level (Main activity)
	<u>Origami rabbit</u>: Level 4 - Appeared to be totally engaged. - However then began to play with the paper at the end.	<u>Letter</u>: Level 4
	<u>'All about me'</u>: Level 4 - Performed well in written tasks. - Sometimes looked up around the table.	Additional Comments This child appeared engaged throughout most of the lesson. Was happy to get on with the task. Sometimes the child would discuss with others, although mostly it was discussion about the activity.
	<u>Brain sorting</u>: Level 3 - Completed task early. - Could be argued high engagement. - However appeared to misbehave slightly with peers.	
	<u>Mind maps</u>: Level 5 Fully engaged with this task.	
	<u>Scenarios</u>: Level 4 - High level of engagement. - Did discuss and could go off topic.	
Whole class comments: - The whole class were mostly cooperative. - All children performed the origami task, some gave up quicker than others. - The paper became a distraction during the lesson. - All appeared to be engaged when watching the video. - There was some fussing during the moving around of activities.		

Appendix 9 – Observational Notes 2

Observation Form

Observation: Year 6

Lesson Study: 2



Leuven Scale for Involvement		
Children	Level (Introductory activities)	Level (Main activity)
Child 1	<u>Origami rabbit</u> : Level 5 - Child is engaged in this activity and motivated to complete it. - Child was able to complete task within the time set.	<u>Letter</u> : Level 5 - This child was very engaged within the activity and driven to complete the task. - The child used the supporting template letter to create her own and finished the activity fairly quickly. - Completed the activity individually and without talking to others at her table – she seemed very determined to do well.
	<u>'All about me'</u> : Level 5 Child works individually on task and is very focused and engaged.	
	<u>Brain sorting</u> : Level 4 - Completed task within a group – done very quickly. - Stayed on task and focused within group.	
	<u>Mind maps</u> : Level 4 - Worked individually on task but helped other children in group when asked. - Read other answers before writing own, she was <u>very</u> focused.	
	<u>Scenarios</u> : Level 4 Engaged in task straight away and read others' answers in order to gain more of an understanding.	
Child 2	Level (Introductory activities)	Level (Main activity)
	<u>Origami rabbit</u> : Level 4 - This child is engaged within the activity and motivated to complete it. - Child did not finish.	<u>Letter</u> : Level 4 - Engages with task and takes time to read template letter in order to support her with the task. - Continues with activity quietly and focusses on task.
	<u>'All about me'</u> : Level 5 Child was engaged during activity and worked individually on task.	
	<u>Brain sorting</u> : Level 4 - Worked with group to complete activity. - Contributed within the group discussions - Was engaged and motivated to share her opinions.	
	<u>Mind maps</u> : Level 4 Child shows interest whilst completing the activity and discusses answers with partner.	Additional Comments When asked to talk to their partners, this child engaged and discussed with theirs in order to come to an understanding of what is being asked of them.

	Child read others' answers before writing her own in order to gain understanding.	Child mostly took lead within activity when working with their partner and engaged within discussion.
	<u>Scenarios: Level 4</u> - Child seemed motivated throughout the activity and remained on task. - Child read others' responses first, before writing her own.	
	<u>Level (Introductory activities)</u>	<u>Level (Main activity)</u>
Child 3	<u>Origami rabbit: Level 5</u> - Child is engaged and motivated to complete the activity. - Child did not complete activity.	<u>Letter: Level 4</u> - Child talks with partner throughout activity but stays on task. - Child reads template letter with their partner for support, when finish they both discussed what they were going to write. - Child is engaged with activity.
	<u>'All about me': Level 4</u> - Child was engaged throughout this activity. - Child discussed activity with partner and seemed excited to complete it.	
	<u>Brain sorting: Level 5</u> - Child took lead within the activity and led the group discussions. - Group finished task fairly quickly.	<u>Additional Comments</u>
	<u>Mind maps: Level 3</u> - Child reads other responses to gain understanding. - Child discusses answers with partner before writing them down.	Although it seemed that the child was off task and talking to others, he was still able to engage and complete the activities.
	<u>Scenarios: Level 3</u> - Child seemed motivated throughout the activity and remained on task. - Child read others' responses first, before writing his own.	
<u>Whole class comments:</u>		
- Whilst doing the origami rabbit challenge, at first, all children were engaged and wanted to complete the challenge. After the first minute, some children gave up and they didn't believe they could complete the task within the time limit. Few children were able to complete the rabbit within the allotted time. - During the introduction of the lesson the children completed the tasks and moved around with minimal distractions or fuss. They all seemed to engage with the activities and participate within group discussions. - During the main activity, most children got on with the task individually but others worked within pairs to discuss what they were going to write. - The lesson was timed very well. The introduction of the lesson, including the carousel of activities, took half an hour to complete whilst the main task was completed by the children within 15 minutes. This was due to the break times being changed.		

Observation Form

Observation: Year 6

Lesson Study: 2

Leuven Scale for Involvement		
Children	Level (Introductory activities)	Level (Main activity)
Child 1	<u>Origami rabbit</u> : Level 5 - Completed the task. - Followed the instructions. - Sat and waited for the next instruction.	<u>Letter</u> : Level 5 - Produced a great deal of work. - Was not distracted by anyone. - Showed the teacher their work when finished. - So engaged with this activity.
	<u>'All about me'</u> : Level 5 - Got on with their work. - Did not discuss with others. - Appeared fully focused.	
	<u>Brain sorting</u> : Level 4 - The child got on with her work. - With it being group work there was temptation to go off task but she was mostly focused.	
	<u>Mind maps</u> : Level 5 - Wrote down several answers. - Again appeared to be fully on task.	
	<u>Scenarios</u> : Level 5 - Got on with the task immediately. - Read other answers to gain an understanding.	
		<u>Additional Comments</u> - Pleasing to see how engaged this child was. - Throughout the whole lesson the child appeared engaged. - Evidently bright child. - Appears to be a pleasure to teach as this child follows instructions without fuss.
Child 2	Level (Introductory activities)	Level (Main activity)
	<u>Origami rabbit</u> : Level 4 - Appeared engaged during the task. - Showed her peers her work but remained on task.	<u>Letter</u> : Level 4 - Appeared on task. - Completed the work to a good standard. - Did discuss with peers but mostly on task.
	<u>'All about me'</u> : Level 4 - Focused on task. - Tendency to discuss with her group. - Most of discussions were about the work.	
	<u>Brain sorting</u> : Level 4 - Completed the task. - Shared her ideas. - Did discuss off topic subjects.	
	<u>Mind maps</u> : Level 4 - Child used other answers to complete task. - Spoke with group about the work.	
	<u>Scenarios</u> : Level 4 - Appeared motivated. - Discussed on this section, unsure if was about the topic.	
		<u>Additional Comments</u> - When doing work was mainly on task. - Often discussed but remained on task.

	Level (Introductory activities)	Level (Main activity)
Child 3	<u>Origami rabbit:</u> Level 4 • Did not complete the task. • Had a good attempt.	<u>Letter:</u> Level 4 • Child completed their work. • Produced a lot of work. • Did talk to partner during the activity.
	<u>'All about me':</u> Level 4 • Wrote down some good answers. • Discussed with some of the peers on the table.	
	<u>Brain sorting:</u> Level 4 • Completed the activity quickly. • Did discuss with others on their table.	
	<u>Mind maps:</u> Level 3 • Off topic on times with peers. • Did complete the work.	<u>Additional Comments</u> • Mostly engaged with the task. • Often talked to peers. • Produced good work. • Appeared engaged when teacher was talking.
	<u>Scenarios:</u> Level 3 • On times discussed with others. • Did appear engaged, but off task a lot.	
Whole class comments:		
• The class were engaged throughout the lesson. • They appeared interested by the activities. • No negative incidents in the lesson. • All listened to teacher and participated in the activities.		

Appendix 10 – Observational Notes 3

Observation Form

Observation: Year 3

Lesson Study: 3

Leuven Scale for Involvement		
Children	Level (Introductory activities)	Level (Main activity)
Child 1	<u>Origami rabbit:</u> Level 4 - Child is engaged in this activity and was motivated to complete it at first. - Child gave up on completing the origami.	<u>Top Tips:</u> Level 4 - This child was very engaged within the activity and driven to complete the task. - The child got on with the task straight away. - The child seemed very determined to do well.
	<u>'All about me':</u> Level 5 Child works individually on task and is focused and engaged.	
	<u>Brain sorting:</u> Level 5 - Completed task within a group – done very quickly. - Stayed on task and engaged with group discussion.	
	<u>Mind maps:</u> Level 3 - Worked within a group on task. - Read other answers before writing own, he was focused and engaged in activity.	
	<u>Scenarios:</u> Level 4 Engaged in task straight away and read others' answers in order to gain more of an understanding.	
<u>Additional Comments</u> - The child engaged well when asked to talk to his partner, they discussed the topics asked of them to find an answer. - Not sure if child fully understood the term 'growth mind-set' due to the change in video to fit the suitability of the age group. Although, the child was still able to complete the tasks correctly.		
Child 2	<u>Origami rabbit:</u> Level 5 - This child is engaged within the activity and motivated to complete it. - Child did not finish although did not give up.	<u>Top Tips:</u> Level 4 - Engages with task and uses a template on the board to help her. - Child talks to her group but still remains on task.
	<u>'All about me':</u> Level 5 Child was engaged during activity and worked individually on task.	
	<u>Brain sorting:</u> Level 5 - Worked with group to complete activity. - Contributed within the group discussions - Took a lead role within group and supported others.	
	<u>Mind maps:</u> Level 5 - Child read others' answers before writing her own in order to gain understanding. - Child then helps others to understand what they need to do then writes her own answers.	
	<u>Scenarios:</u> Level 3 - Child seemed less engaged with this activity and allows other children to take a lead role. - Child read others' responses first, before writing her own	the age group. Although, the child was still able to complete the tasks correctly.

	Level (Introductory activities)	Level (Main activity)
Child 3	<u>Origami rabbit</u> : Level 4 Child is engaged and motivated to complete the activity.	<u>Top Tips</u> : Level 5 - Child engages with task and is <u>very</u> focused. - Child works individually and doesn't become distracted by other children.
	<u>'All about me'</u> : Level 5 - Child was engaged throughout this activity. - Child remained very focused and worked individually.	
	<u>Brain sorting</u> : Level 3 - Child was engaged at first but the group finished the activity fairly quickly - When finished, the child lost interest and disengaged within the group discussion.	
	<u>Mind maps</u> : Level 4 - Child shows engagement and works individually during activity. - Child reads others' answers before writing her own.	
	<u>Scenarios</u> : Level 3 - Child seemed less engaged with this activity and allows other children to take a lead role. - Child read others' responses first, before writing her own.	<u>Additional Comments</u> - Child worked very well when completing task individually, but seems to lose interest when working within a group. - Engaged well when asked to talk to their partner, took on a lead role. - Not sure if child fully understood the term 'growth mind-set' due to the change in video to fit the suitability of the age group. Although, the child was still able to complete the tasks correctly.
Whole class comments:		
- Whilst doing the origami challenge, at first, all children were engaged and were driven to complete the challenge. Although, as the time was running out it seemed that many children gave up trying. Only one child was able to complete the task within the allotted time. - During the introduction of the lesson, children were very distracted and seemed to fuss a lot between activities. Most children showed engagement throughout the activities. - During the main activity, most children got on with the task individually but others worked within pairs/groups to discuss what they were going to write. - The lesson was timed quite well, the majority of the lesson consisted of the introductory activities leaving the children around 15 minutes to complete their top tips which worked very well. - It seemed that when observing the class, some children did not seem to fully understand the term 'growth mind-set' and thought it just meant to not give up. I believe this was due to the age of the children and also that the video we used to explain growth mind-set had to be changed so that the children would understand. Although, the children were still able to complete the activities correctly even though they had not learnt about 'growth mind-set' before.		

Observation Form

Observation: Year 3

Lesson Study: 3

Leuven Scale for Involvement		
Children	Level (Introductory activities)	Level (Main activity)
Child 1	<u>Origami rabbit</u> : Level 3 - Initially appears to be engage with activity. - Child gave up on completing the origami, fussing with the resources. - Does engage with quiz/questions and is eager to respond to teacher and share ideas about growth mindset.	<u>Top Tips</u> : Level 4 - Child is very engaged with this main activity immediately. Is eager to complete task correctly. - Is talking to peers sat on table. Unable to determine whether pupils are discussing their work. - Is using ideas developed from introductory activities to complete task.
	<u>'All about me'</u> : Level 5 - Appears to be very engaged. - Is very focussed on completing individual activity with little interaction with peers.	Additional Comments - Child sometimes appears to distracted however quickly regains attention and shows engagement through their interactions with peers and activities. - Child engages well when talking to partner, contributes well to group discussion and uses own knowledge to help others and shares ideas. - Appears to have a very good understanding of what they are writing. Sharing ideas with peers.
	<u>Brain sorting</u> : Level 5 - Initial sorting task completed with ease. - Engaging well with group, is encouraging others to discuss their decisions. - Responds well to extension activity, is articulate when sharing ideas and contributing to group discussion.	
	<u>Mind maps</u> : Level 4 - Carefully considers response and what they are going to write – reading the responses of others before writing own. - Was very focussed on own work, sometimes engaged in discussion with others.	
	<u>Scenarios</u> : Level 4 - Really concentrating and focussed on task. - Engaging in group discussion and helping others with their responses to the scenarios.	
	Level (Introductory activities)	Level (Main activity)
Child 2	<u>Origami rabbit</u> : Level 3 - Very engaged and eager to complete this activity. Appears to be very excited to be conducting creative activity. - Doesn't complete the origami, has not given up and wants to continue to create the origami. - Is distracted during quiz, fussing with origami paper and is continuing to attempt to complete challenge.	<u>Top Tips</u> : Level 4 - Is using the template provided on the whiteboard and using ideas developed from introductory activities. - Appears to be initially very engaged in the task, however is talking to peers. - Although is talking with peers, remains on task. - Clearly has a good understanding of what they
	<u>'All about me'</u> : Level 5 - Engaged with task immediately. - Working well individually and is focussed on completing activity.	

	<u>Brain sorting:</u> Level 5 - Appears to be taking the lead during this group activity. Is helping others and sharing ideas. - Is open to listening to ideas of peers.	are writing. Sharing ideas of growth mindset with peers.
	<u>Mind maps:</u> Level 5 - Using the ideas of peers to develop own understanding by reading previous responses and sharing ideas within group. - Is helping others to develop their responses and understanding the task.	Additional Comments
	<u>Scenarios:</u> Level 3 - Has become distracted by origami again. Is sitting back and letting others to complete the task. - Is prompted by teacher to engage with activity. - Questioning what peers within the group have written, and writes response accordingly.	- Engages well with peers and shares ideas when asked to talk to partner very well. - Although there are moments within the lesson where child is distracted by the origami, it appears that they have engaged well with most activities to achieve L.O.
Child 3	Level (Introductory activities)	Level (Main activity)
	<u>Origami rabbit:</u> Level 5 - Appears very engaged in activity and wants to complete origami. - Engages with quiz and is eager to share ideas with class and during TTYP.	<u>Top Tips:</u> Level 5 - Engaging well with activity. Begins writing straight away and appears very focussed.
	<u>'All about me':</u> Level 4 - Working well individually. - Engaged with task, and eager to complete.	- Working individually with no interaction with peers. Is not distracted by pupils talking around them.
	<u>Brain sorting:</u> Level 2 - Not contributing greatly to group activity, others in group leading completion of task. Child has read some statements on cards but appears disengaged. - Sorting task completed quickly, child has lost interest and is not contributing to the group discussion during extension activity.	- Appears to be using knowledge gained from introductory activities to complete task.
	<u>Mind maps:</u> Level 4 - Working individually, very engaged in completing the activity. - Not engaging in discussion with peers.	Additional Comments
	<u>Scenarios:</u> Level 3 - Appears disengaged. Happy for others in the group to take lead and complete task. - Does complete some responses for scenarios, but reads answers from peers to form own knowledge.	- It is clear child prefers to work individually. - Sometimes appears disengaged but it is clear they have begun to develop some understanding of growth mindset. - Sometimes willing to engage with others and share ideas with partner.
Whole class comments:		
- On the whole, the class appeared very engaged throughout the session. - Origami activity at the beginning of the lesson appeared to excite all pupils, and they were eager to have a go and complete the challenge. - Pupils fussy between activities and teacher required to settle them down. - Pupils engaged in discussions as a group and in partners while completing activities. - Pupils using knowledge gained from activities to complete main activity.		
- All pupils able to complete main writing activity with little or no support. - It is clear that although pupil's do not have a sound understanding of the concept of growth mindset, the activities within the lesson have allowed pupils to begin to consider and begin to understand what growth mind-set means.		