

“How can we improve the level of attainment of selected pupils through the use of mixing abilities within groups?”

Gallwch ychwanegu'ch targedau o'ch aseiniad diwethaf gan ddefnyddio'r tabl isod. /

Please add your targets from the previous assignment using the table below.

	Targed/Target	Yr hyn yr wyf wedi'i wneud yn yr aseiniad hwn. What I have done in this assignment.
Targed/Target 1	“Engage with a wide range of relevant literature to inform and build your personal viewpoint, particularly in the cross -curricular element of this assignment.”	Used a wider range of literature souces- Books/ internet/ PDF etc.
Targed/Target 2	“Consider developing counter arguments when critically evaluating the impact of your own practice.”	Tried to be more critical when relating to literature.
Targed/Target 3	“Build upon your ability to propose solutions and apply them to complex problems which arise in practice.”	Discussed ways forward on how this project could be developed through my future practice.

Assignment word count- 5393 words

Aim focus and purpose of the research-

The main issue that I wanted to investigate for this research project was, looking at how pupil's attainment levels can be improved by group work during lessons. The reason that I wanted to investigate further into this issue, was due to how pupils are grouped through each key stage in my school in particular.

All pupils are grouped in mixed attainment levels in all subjects across the curriculum except for Maths and Science, where pupils are placed into sets. I thought that it would be interesting to see how group work influenced tasks can have an impact on the learning of the pupils. The idea of seeing if the work outcomes are improved when pupils work as a group having that extra support, compared to how they perform as an individual.

The main purpose of this investigation is to see if this approach is successful and to see how it can be a beneficial strategy that can be adapted through my future teaching career. This research project was conducted by myself and two other student teachers also, eager to investigate this issue further. To carry out this investigation, a series of lesson studies took place over three days. As a result, we could compare and look at the impact through a range of pupils from different classes to make our research more diverse and experimental. **(Amador, M, J. Carter, S, I. 2016)**

We decided as a group that our final question would be "How can we improve the level of attainment of selected pupils through the use of mixing abilities within groups?" Therefore, this assignment will explain what methods and approaches were used to critical reflect on our research question and what positive and negative results we have gathered from our classroom observations.

Short overview of literature-

The main focus of our lesson studies were looking at attainment levels within a class, we decided that we needed to look further into this by reading relevant literature and theorists who adapt group working strategies, to improve the learning of the pupils. I think that the idea of group work can allow pupils to get a deeper and wider knowledge of learning, as it enhances their communication and development skills. There are many advantages to group work, one of them being that "groups can tackle more complex problems than individuals can and can have the potential to gain more expertise and become more engaged in a discipline" **(Washington university, 2016)**. We were hoping that pupil's who have higher attainment levels, will support the other pupils in their groups who are less able and need that extra support. We were hoping that it would encourage them to be more focused within a group, and try and attain their best performance. One of the pedagogical principles in Donaldson's curriculum for 2022 is to encourage more group collaboration, and how it can benefit pupils to become successful learners for the future. **(Successful futures, 2015)**.

Donaldson's aim is also to ensure that there is a greater focus on pupil life skills and confidence skills and I believe that Group work is a way forward for individual pupils to achieve these skills.

An online article, reflects on how the pedagogical principle of encouraging group collaboration was considered when conducting a research project. The idea of this is to see the effectiveness of group work, as an incentive for learning

(chiriac, H, E, 2014). The results from this showed that 97% of the students who took part said that group work facilitated their learning. It was said that, they learned a lot more and a range of different things working as a group compared to working alone. I was particularly drawn to this quote “You can learn more about concepts and ideas when you talk”. **(Cohen, G, E. Lotan. A,R, 2014)** I believe that, sharing ideas and inspiring others, makes work easier and gives you further knowledge to progress.

After looking at this research study and relating back to our research question, it made us think about the affect of group work, having a positive impact on the individual learning. What affect is it going to have on the individuals that are going to be placed in groups with mixed attainment levels?. This research project will allow me to increase my critical thinking and development of this pedagogical principle and give me better content knowledge of my practice. **(Amador, M, J, 2016).**

After doing further reading, a few books have greatly discussed the idea of Social influence within group work and how this concept has an impact on social psychology, which is how pupils think, feel and behave in a social context. **(Kassin, S, Feinis, Markus, R, H, 2014).**

Lev Vygotsky’s theory explains how the social interaction within groups of pupils can improve the communication and the understanding of tasks set within classrooms. **(First discoverers, 2020).** Vygotsky’s zone of proximal development explains how collaboration with a more capable other has a powerful impact on individual’s potential development. **(Cherry, K, 2019).** Our investigation of seeing how the higher attainment pupils in this case, is the more capable learner, helps and supports the development of the less able learner. **(Vygotsky, L, Lloyd, P, Fernyhough, C, 1999).**

In reference to the focus of social psychology, and how this theory essentially impacts the learning of individuals. Normal Triplett (1898) is a psychologist who carried out an investigation inspired by bicycle racers, his theory developed after focusing on how they perform faster and better, when cycling as a group compared to riding as an individual, he was then led to believe that people perform tasks better in a social context compared to working alone. **(kruglanski, W, A, Wolfgang, S, 2012).**

After relating to this theory based on social context, we were immediately drawn to thinking about how are these pupils going to feel, about being placed into groups not with their friends and will this affect the way they perform in a negative way.

However, there is also an argument that if pupils are placed in friendship groups they will cause trouble and develop a poor performance towards learning. **(Day, J, 2007).** Our research project will allow us to determine whether or not our grouping was successful on individual learning not just for our group focus but also for the learning of the entire class.

After looking at the influences of social psychology within groups, I wanted to look further into similar research projects that have taken place involving mixing abilities within groups. **(Ireson, J and Hallam, S, 2001)** noted that, children who have lower attainment levels are likely to be less motivated if they are placed in a group with a child with the same attainment level. This is why we feel like mixing abilities within groups will give the pupils more opportunity to enhance their learning. There are many reasons to why pupils have lower attainment levels compare to pupils who are the same age.

An online report discusses the major causes of lower attaining pupils in school, one of the major factors are said to be ‘the home learning environment’ **(Cassen, R, Kingdon, G 2007)** how much time is spent at home to further their educational

progress. The lower attaining pupils mainly come from disadvantaged backgrounds and don't have as much support. When carrying out our investigation, we will need to consider that pupils are all treated fairly and that the attainment gap isn't distributed between the other year groups (**BERA, 2018**). We are hoping that from this investigation that we can help improve the attainment gap between the mixed ability pupils to give them more of an opportunity to progress through group collaboration tasks in Art and Drama lessons.

Methodology-

In this section, I will explain what methodologies that were used to conduct this project. It is an essential part of teaching practice to conduct research to provide a rich source of evidence for personal development. It is said that, it allows opportunities for enquiry-based practice for inspiring innovation and enables teachers to build strong, sustainable relationships between the schools and communities (**BERA, 2014**).

Donaldson's review states that teachers should have a high quality and understanding of the pedagogical principles of 'why' and 'how' of teaching as well as 'what' (**Successful futures, 2015**). As stated by (**Hattie, 2009**) "The biggest effect on student learning occurs when teachers become learners of their own teaching". We as student teachers needed to ensure that our question would allow us to explore many different issues that arise in classrooms to give us an experience that would be useful and beneficial to further our understanding of secondary education.

The main approach that was taken to assist our research question consisted on various lesson studies, which would include joint observations in a classroom environment focusing on a particular group of pupils. Lesson studies are said to be one of the best sources of gathering data and a great collaboration tool for enhancing pedagogy throughout secondary schools (**Bracken, S, De Oliveira, P, J, 2019**).

In a recent article it is mentioned how a lesson study is used to "observe a pupils reaction" (**Godfrey, D, 2019**). I believe this is an extremely important point that will need to be considered in our lesson study. Seeing how pupils react to being placed in groups, how they feel about group tasks, how well they perform in a group etc. This also relates back to the theory of social psychology and pupils 'reactions' will change working as a group compared to working as an individual.

To ensure that our lesson study was in-depth and that we achieved the best results from the observation, we needed to prepare methods for data collection so that important details of the lessons were recorded. (**Loughran, J, Hamilton, L, M, 2016**) resource discusses the advantages of using data methods and how it is said, to enhance the planning of research. Furthermore, data collecting evaluates "what students learned and what lesson elements supported the learning or provided barriers" (**Lewis et al, 2009**).

For this investigation, we used integrated research, which consisted of gathering qualitative and quantitative research by non-participant observations. As mentioned in the beginning of this assignment, in order to view the attainment levels of the chosen classes that would take part in the lesson studies, we had access to the schools 'SMID' website where all data is kept confidential about pupils progress throughout school. This type source was type of quantitative data, the benefits of this is to give use a reliable source of information (**Bamberger, M 2000**). Following this, we also used a type of qualitative data, where information was recorded using written sources.

As we wanted to focus on a particular group from each lesson study to see if their attainment levels are improved in a group, we needed to create a chart that would allow us to record the level of engagement during the lessons.

After researching, we decided that Leuven's scale of engagement (**SCILT, 2012**) would be the best way of collecting our results. Leuven's chart consists of 5 levels of engagement when recording how well a pupil is responding to tasks. Level 1 being extremely low level of concentration and level 5 being extremely high and being fully engaged during the lesson. The idea of this was to give us a more clear perspective on each pupil's reaction during lesson, to make our results much more accurate.

The different levels of engagement would be recorded at the beginning, middle and the end of the lesson, to tell us how well they work within their group and to see if their engagement improves their level of attainment. We wanted to be able to see how the effects of the mixed ability group, collaborate together and to see whether or not, the support from the higher attained child within the group is going to benefit the less able child.

As a source of written information to describe what is happening through the lesson, we decided to follow (**Gibbs, G, 1988**) structure. This involved describing a series of events that happened during the lesson study. This consisted of, the description of the lesson, feelings about what is happening, evaluating how the experience was, analysis on anything else made from the study, a final conclusion of what else could have been done and finally an action plan going forward, on what could be done differently next time. We needed to ensure that this was completed during each lesson observation and then repeated a few days later as a group to see if there are any alternative feelings and ideas towards the reflection. An online article discusses the benefits of encouraging lesson reflection and how it is said to allow teachers to define the strengths and the weaknesses of the lesson from 'experiencing to understanding' (**Spalding, A, 2020**). I believe that this strongly links to (**Hattie, 2009**)'s theory, on how student learning develops when teachers become learners of their own teaching. We as students need to investigate issues within a class and how we can improve individual learning, we are 'experiencing' what is happening within a classroom and by reflecting we are 'understanding' what needs to be done to make our teaching more effective to benefit those pupils.

To make our research worthwhile, our aim was to conduct an interview with the group focus at the end of the lesson. This was to obtain their opinion, to see how they felt and how they believe they performed through the lesson. It is said that it can give teachers a deeper-knowledge to extend their research and also gives pupils the opportunity to reflect on their learning. (**Portigal, S, 2013**).

Interviews can be quite intimidating, however, this will not be the case through out our interview process. We need to ensure that pupils are given the opt-out option at anytime, this is if pupils felt too nervous or don't want to contribute to any questions they have the choice to leave the interview. As this is a research-based project, pupils will be given parental consent forms to ensure that their parents are in agreement for pupils to take part during the lesson study and interview process. To comply with the Education act, as stated, "To have regard to the general principle that pupils are to be educated in accordance with the wishes of their parents" (**GOV, 2018**).

Ethical consideration-

There were many ethical issues that had to be considered when doing our research-based studies within classrooms. **(Farrell, A, 2005)** One of the most important issues being, that pupils are treated fairly and respectfully. **(BERA, 2018)** The British educational research association defines the equality and the rights of the pupils who take part in research-based projects. As mentioned previously, all pupils asked to take part had a choice and could withdraw at any time. The UNCRC have created an international legal framework, which we as researchers need to be aware of before conducting research, which involves working with children. It discusses the “legal protection and fundamental freedoms of children under the ages of 18 years old”. **(UNCRC, 2016).**

Before we, as student teachers could undertake our lesson studies, we had to ensure that an Ethic's form was completed to inform our placement schools that we understood the rights of the pupils and also that we are in agreement to comply with confidentiality and anonymity policies ensuring all data recorded about pupils is kept anonymous following the **(Data protection act, 2018)** to safeguard the information shared about the school children for example, SMID website which gives us access to pupils Names/ ages/ National reading grades etc.

However, to ensure that all information is kept anonymous throughout this assignment no names will be mentioned and the children in focus will be called ‘Child A, B and C’, for each lesson study.

Lesson study 1 (3.2.20)- Art lesson

The first lesson study took place in a school situated in rural area in west Wales. This however, was my planned lesson and taught lesson and took part in an Art and Design setting which involved teaching a group of 24, Year 7 pupils, who are placed in a class of mixed attainment levels.

After being given access to the school data site SIMD, this made the process easier to place pupils into groups with higher, middle and lower attainment levels. My classroom set up consisted of, 8 groups of 3 pupils with mixed ability ranges and the main aim was to see how the higher ability pupils respond to having someone who has a lower attainment level in their group.

Therefore, this reflection will discuss one chosen group focus from this class, who we believed to be the most intriguing and made us think about our question, “Does it improve the learning of individuals?”

The lesson objective was a group collaboration task, which was closely linked to their Scheme of work “The lion king production”. Pupils were investigating animal patterns and prints and had to create an A4 design, which was worked on by each individual in the group. It is said that by encouraging group collaboration through Art lessons it can allow pupils to share and create new ideas. **(Day, M, Hurwitz, A, 2011)**. I was inspired by an online article, on how the benefits of group art projects, can make children better adults. **(Tamuria, 2017)** It strongly promotes the benefits of group working in Art lessons and how it can improve their learning for when they leave school.

During the lessons study, we decided to focus on GROUP 1 who were, Child A who has a lower attainment level, Child B who has the higher attainment level and Child C who has a middle attainment level.

The results were recorded using inspiration from Leuven's scale of engagement (**SCILT, 2012**). Results showed at the beginning of the lesson, Child A with the lower ability was easily distracted and was at a level 2 of the engagement hierarchy, this means that there was very little contribution towards the task. This seemed to become a regular occurrence throughout the lesson. The student teachers observing the lesson stated that, they felt that Child A was relying on the other pupils in the group to complete the task. Therefore, the engagement levels of Child B and C remained positively high throughout the lesson. The student teachers mentioned in the (**Gibbs, 1998**) reflection model that child B and C, were motivated to help each other and regularly seeks approval from one another. It was clear that Child B and C wanted to help and support Child A, who showed very little interest. This made us question, is it because Child A, was not satisfied with their peers in their group or was it the fact that they were struggling with the task and quickly lost interest.

After the lesson, an interview took place involving Child A, Child B and Child C to see how they felt after the lesson. The question that stood out the most was, was when Child C the lower attainment pupils answered that they preferred working in a group compared to working as an individual, although it was clear that their involvement levels throughout the lesson stayed particularly low. As commented, we believe that this result could have had a HAWTHORNE effect on our results. This is said to be how a different working environment can affect the behaviours of individuals in a classroom. (**Evans, D, 2014**).

I believe that the lesson could have been improved by, better classroom management that includes a structured seating plan. Although, pupils were placed in mixed attainment level groups they did not have designated areas to work in and were mixed with other groups, which caused a negative impact on the learning environment.

(**Lindberg,A,J et al, 2005**) recommends useful approaches to effective classroom management and what strategies can be used in future lessons.

We as a group completed a second (**Gibbs,1998**) reflection model to discuss our findings. We believe that the experience showed very little affect on improving the attainment levels of the lower attained pupils within the class. Our group focus showed that although the higher attainment pupils were being supportive and encouraging the lower attainment pupil, showed very little response and engagement to the group. This lesson study in particular, will be discussed further and critically evaluated at the end of this assignment.

Lesson study 2 (6.2.20) Art lesson-

This lesson study was conducted in a different school compared to the previous lesson study. The reasons for this being that, we wanted to get a variety of pupils with mixed attainment levels from different schools, so that we could look at the diversity. This lesson took place in a school situated in a populated area in South-west Wales. However, in this lesson study my position was to observe the lesson as a non-participant observer rather than being the teacher of the lesson, this enabled me to get a different experience of involvement in a lesson study.

Student teachers observing lessons are said to gain knowledge and develop their professional skills by seeing how others teach. **(O’leary,M, 2014).**

This lesson focus was also a Year 7 group of pupils, however, this class were all lower ability pupils. We wanted to see the impact of how mixed lower ability pupils work as a group to see if it improved their learning?

Pupils were set the task, which was continued from the previous lesson. They were investigating colour mixing and looking at the shapes and forms of foliage. We were given 3 pupils to focus on, Child A, B and C who as I mentioned are all lower attainment pupils. As they were a lower ability class, it was clear that some pupils in the classroom has additional learning needs and had the support of a learning support assistant. We believe that the encouragement and motivation of the LSA teachers may have had an impact on our results.

We again, recorded the engagement levels of these pupils to see how well they were responding to the task using the same structure as Leuven’s scale of engagement **(SCILT, 2012)**. Child A, B and C showed that they were working at a similar level throughout the lesson which was a medium level of engagement, although the class working environment appeared to be calm and consistent.

I believe that they showed very little interest in working collaboratively and the task that had been set was mainly an individually focused task. I think this lesson could have been improved by encouraging pupils to work on the same piece of work so that, it would have created discussion and idea sharing.

As we were inspired by the literacy of social psychology and wanted to investigate how this strategy could help improve the learning of individuals by promoting group communication and collaborative tasks, we could not achieve a positive result from the research.

We completed another reflection model as a group and had a discussion about what we gathered from the lesson. It was clear to us that pupils with ALN need extra support and that their engagement levels were varied. As a result, we did not think that we collected the results we wanted from this lesson study, as I believe that we did not research enough into working with ALN pupils, so we did not know what to expect. As a way forward and to improve our professional development, I think that this area could be explored further to gain more knowledge about working with ALN pupils. Overall, the experience was extremely useful and it has given an insight to working with all lower attainment pupils and how much extra support need to be given to those pupils- If this research study could take place again, it would be interesting to see what would happen if classes were placed into mixed abilities for a focus lesson.

Lesson study 3 (7.2.20) Drama lesson-

The final lesson study took place in the same school as Lesson study 1, but in a different context, as it was based in another subject across the curriculum. The reason that we wanted to investigate in another subject was to compare how mixing abilities in groups could have a different affect in another subject. For this lesson study, my position was also as a non-participant observer.

This class consisted of 26 Year 7 Pupils who were also placed in lower, middle and higher ability for this lesson study. As part of this lesson study, the lesson’s Scheme of work was also focusing on “The Lion King” production and therefore, the group tasks that involved acting scenes from The Lion king. We decided to focus on a different group of pupils, which also consisted of Child A, Child B and Child C. We

used the same observation sheet again following the **(SCILT, 2012)** and the levels of engagement were recorded throughout the lesson. We found this lesson study the most interesting as a critical incident was observed at the beginning of the lesson. Child B and C who are the lower and middle attaining pupils were unhappy with Child A, who has the higher ability, being in their group. As the lesson continued, you could see that child A was emotionally distressed after her group members were causing this affect. This forced the teacher to place child A with another group. I believe this was due to this group of pupils not having a close friendship. Child A's attitude changed after they were placed in a group with their friend and you could see that their performance had a negative impact learning. From this experience, I don't believe that the individual attainment levels were improved yet again during this lesson. The HAWNTHORE effect may also have been the reason for the pupil's behaviours.

I do believe that the critical incident caused an interference with the classroom environment, however, the teacher dealt with the situation professionally and the engagement levels of the pupils improved as the lesson progressed. We believed that the lesson could have been improved by doing a group task that involved all lower attainment pupils working together and then all higher attainment pupils working together and then to mix them into groups throughout the lesson. By doing this, we could have compared both approaches and it would have supported our research better.

Discussion of research findings in relation to related literature and research-

Throughout this research project, it is clear that there was no evidence that mixing attainment levels through groups had improved the attainment levels of the individuals. I came across an article, which describes the results of a similar investigation, which took place involving mixing attainment levels in groups **(Taylor, 2017)**. This article reflects on the learner's positive attitudes towards being placed in set groups and gives an overview of how grouping pupils in mixed abilities had very little affect on individual attainment levels. However, it discusses the benefits of group work and how it influences pupil's self-esteem, by building their confidence. In relation to the social psychology theory that was mentioned in the beginning of this assignment, there was clear evidence through our lesson studies that the idea of social interaction improved the performance and engagement levels of pupils but not their attainment.

We believe that one of the negative results of our research project may have been, the subjects that we decided to conduct our research projects through. Art and Drama are said to be 'skill based subjects' and therefore, can be very difficult to improve their attainment levels. I was particularly drawn to this quote *"The trouble is that creativity, increased confidence or a love of the arts aren't easily measured through standardised tests, data analysis or league tables."* **(The Guardian, 2018)**. I believe that this is an extremely important point, it shows how within the subjects we teach, it is difficult to improve the attainment level as it is all based on their skill and performance. I think that the strengths of our research based project, was that our group work enabled pupils to work collaboratively, it was something different for them to experience and to give them an opportunity to share new ideas with each other. I believe that group work should be promoted more through lessons as it challenges them to work more diversely.

We agreed that the HAWNTHORE effect potentially had an impact on the way pupils behaved during the lesson study. It is said that, “a perceiver’s awareness will increase at any time there is variation in, or departure from, what we perceive as normal, constant, unchanging or regular.” (MKA, 2012). I feel that some of the pupils in the lesson studies possibly were performing differently as maybe they felt slightly under-pressure or intimidated that there were others observing the lessons.

Conclusion and recommendations-

As a conclusion to the research, I believe that although we did not improve the overall attainment levels of the lower ability pupils in my class in particular. I feel as though it has given me the chance to learn new skills and develop my pedagogical understanding. I successfully know how to plan and create group related tasks through my practice and it has made me aware that putting pupils in mixed ability groups improves their performance but not their skills/ attainment. As previously mentioned, it has given me a high quality understanding of ‘why and the ‘how’ of teaching as well as ‘what’ (Successful futures, 2015).

I think that the methodologies that were used to carry out my lesson study were reliable, however, there wasn’t enough information on individuals, to show that their attainment levels had improved. I think that if this research study was conducted across a few different lessons, it may have given us better results, as we could monitor their progress over time.

I believe that Vygotsky’s theory of social interaction in groups made an impact on lesson study as, there was evidence that the middle and higher ability pupils tried supporting the pupil with a lower ability level. It showed that the ‘more knowledgeable other can help the engagement of less able other.’

As a way forward, I could look at different approaches of performing group work tasks within my teaching practice, as suggested, that I needed to rethink the groupings of the pupils within the class. (Catapano, 2019) suggests many different group work strategies, for example allowing pupils to choose their own groups to see the social interaction will improve the engagement levels.

As results were proven to be inconclusive towards our research question, “How can we improve the level of attainment of selected pupils through the use of mixing abilities within groups?”. I think that we would need to look at other ways such as how effective questioning, improvement feedback, metacognition and peer evaluation targets individual learning and progress.(WLC) I do believe, that these strategies are said to be effective for raising attainment levels as they consist of more of an independent focus, rather than how a group impacts individual learning.

I believe to increase my personal development skills, I need to look at different classroom management strategies, group dynamics and also investigate further into the area of additional learning needs as this arose throughout one of our lesson studies. All of this research conducted has and will help me towards making my future lessons much more effective and beneficial for individual pupil learning.

References-

Book references-

Amador, M, J. Carter, S, I. (2016) *Audible conversational affordances and constraints of verbalizing professional noticing during prospective teacher lesson study*. USA : Springer science + business media Dordrecht.

Cohen, G, E. Lotan. A,R (2014) *Designing group work- strategies for the heterogeneous classroom*. Third ed. NY: teachers collage press.

Pollard, A (2014) *reflective teaching in schools*. 4th Ed. London: Bloomsbury academic.

Chiriac, H,E (2014) *Group work as an incentive for learning- student's experiences of group work*. USA: Frontier in psychology.

Kassin,S, Fein, S and Markus, H. (2014) *Social psychology*. Ninth ed. USA: Wadsworth Cengage learning.

Cherry K. (2019) *A Biography of Lev Vygotsky, One of the Most Influential Psychologists*. NY: Dotdash publishing.

Brewer, B, M (2011) *Social cognition, social identity, and intergroup relations*. NY : Psychology press.

Vygotsky, L, Lloyd, P, Fernyhough, C. (1999) *Lev Vygotsky- Critical assessments*: London: Routledge.

kruglanski, W, A, Wolfgang, S. (2012) *handbook of the History of Social Psychology*: NY: Psychology press.

Ireson, J and Hallam, S, (2001) *Ability grouping in education*. London: Paul Chapman publishing.

Kutnick, P, Sebba J, Blatchford, P, Thorp J. (2005). The effects of pupil grouping: Literature review. Brighton: university of Brighton.

Hattie, J. (2009) *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. London: Routledge.

Bracken, S, De Oliveira, P, J. (2019) *Lesson study as a collaborative research tool enhancing inclusive pedagogy in higher education*. Worchester: UNESP

Godfrey, D. (2019) *Professional development in education- A development approach to lesson study- Exploring the impact of lesson study in London schools*. London: Informa UK Limited.

Loughran, J, Hamilton, L, M. (2016) *International Handbook of teacher education*. Singapore: Springer.

Bamberger, M. (2000) *Integrating qualitative and quantitative research in developing projects*. USA: The world bank Washington, DC.

Gibbs, G (1988) *Learning by doing: A guide to teaching and learning methods further education unit*. Oxford: Blackwell.

Portigal, S. (2013) *Interviewing users*. NY: Rosenfeld media.

Farrell, A. (2005) *Ethical research with children*. NY: Open university press.

Gillett-Swan, J, Coppock, V. (2016) *Children's rights, educational research and the UNCRC: Past, present and future*. Oxford: Symposium books.

O'leary, M (2014) *Classroom observation- A guide to the effective observation of teaching and learning*. London: Routledge.

MKA (2012) *SHE Speaking HAWTHORNE Effect-What captivators know, say and do*. USA: Xlibris publishing.

Day, M, Hurwitz, A (2011) *Children and their Art: Art education for elementary and middle schools*. Ninth ed: Wadsworth Cengage learning.

Internet references and PDF's-

Washington university in St.Louis. (2016) *Benefits of group work*: Washington university. Available at- (<https://teachingcenter.wustl.edu/resources/active-learning/group-work-in-class/benefits-of-group-work/>) [Accessed on- 14th Feb 2020]

OECD. (2012) *Equity and quality in education, supporting disadvantaged students and schools*. OECD Publishing. Available at- <https://www.oecd.org/education/school/50293148.pdf> [Accessed on 17th Feb 2020]

Donaldson (2015) *Successful futures*. UK. Available at- <https://gov.wales/sites/default/files/publications/2018-03/successful-futures-a-summary-of-professor-graham-donaldsons-report.pdf> [Accessed on- 17th Feb 2020]

First discoverers (2020) *Child development theories : Lev Vygotsky*. Available at- <https://www.firstdiscoverers.co.uk/lev-vygotsky-child-development-theories/> [Accessed on- 17th Feb 2020]

Day, J. (2007) *School friendship groups and their impact on their learning*: Cambridge: Available at- <https://www.tandfonline.com/doi/abs/10.1080/03004279685200091?journalCode=rett20>. [Accessed on- 17th February 2020]

BERA (2018) *Ethical guidelines for educational research*. 4th ed. UK: BERA-RSA. Available at- <https://www.bera.ac.uk/publication/ethical-guidelines-for-educational-research-2018> [Accessed on- 17th Feb 2020]

BERA. (2014) *Research and the teaching profession*. UK: BERA-RSA. Available at- <https://www.bera.ac.uk/wp-content/uploads/2013/12/BERA-RSA-Research-Teaching-Profession-FULL-REPORT-for-web.pdf> [Accessed at 17th Feb 2020]

SCILT (2012) *Leuven scale of active engagement in learning*. Available at- <https://scilt.org.uk/Resourceview/tabid/1092/articleType/Articleview/articled/218/leuven-scale.aspx>. [Accessed on 18th Feb 2020]

Spalding, A (2020) *How to encourage reflective teaching in your school*. UK: IRIS connect UK. Available at- <https://blog.irisconnect.com/uk/blog/5-benefits-of-encouraging-teacher-self-reflection> [Accessed on 18th Feb 2020]

.GOV- The department for education (2018). *Understanding and dealing with issues relating to parental responsibility*. Available at- <https://www.gov.uk/government/publications/dealing-with-issues-relating-to-parental-responsibility/understanding-and-dealing-with-issues-relating-to-parental-responsibility> [Accessed on- 18th Feb 2020]

GOV (2018) *Data protection act*. UK. Available at- <http://www.legislation.gov.uk/ukpga/2018/12/contents/enacted> [Accessed on- 19th Feb 2020]

Evans, D (2014) *The Hawthorne effect: What do we really learn from watching teachers (and others)* Available at- <https://blogs.worldbank.org/impacitevaluations/hawthorne-effect-what-do-we-really-learn-watching-teachers-and-others> [Accessed on 19th Feb 2020]

Taylor, B (2017) *Learners' attitudes to mixed-attainment grouping: examining the views of students of high, middle and low attainment*. Available at- <https://www.tandfonline.com/doi/full/10.1080/02671522.2018.1452962> [Accessed on: 22nd Feb 2020]

The Guardian (2018) *Secret teacher: Subjects like art are being sidelined- but the matter*. Available at: <https://www.theguardian.com/teacher-network/2018/jan/06/secret-teacher-unbalanced-curriculum-sats-assessment-children-art-music-languages-sidelined> [Accessed on: 22nd Feb 2020]

Catapano, J. (2019) *30 ways to arrange student group work*. Available at- <https://www.teachhub.com/30-ways-arrange-students-group-work> [Accessed on- 23rd Feb 2020]

West Lothian Council- WLC Available at- <https://education.gov.scot/improvement/documents/sac43-raising-attainment-improving-life-chances.pdf> [Accessed on- 23rd Feb 2020]