

How peer-assessment can be effectively employed to improve the learning experiences of Year 7 pupils, based on findings from lesson study observations and interviews of selected case pupils.

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	"You have the necessary skills to write academically at a very high level. Consider your strengths and extend them in your research assignment by analysing literature more deeply to provide <u>more supported view points that are linked to recommendations.</u> "	I have used a large body of relevant pedagogical literature to guide my research project and inform conclusions. In turn, these conclusions have aided in the formation of recommendations for my future practice. The strengths of these recommendations have been researched and their critical evaluation is present in the analyses of Research Lesson 1 and 2 and 'Research Findings and Conclusions', guided by findings from the 'Overview of literature' in this report. The recommendations have also been appropriately referenced and are succinctly outlined in the 'Recommendations' section.
Targed/Target 2	N/A	
Targed/Target 3	N/A	

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Aims of the research

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This report will focus on the critical evaluation of research findings regarding the use of peer-assessment to improve the learning experiences of Year 7 pupils. The findings will be gathered from a lesson study, involving classroom observations and interviews of selected case students. The lesson study will be designed, implemented and refined based on careful analysis and synthesis of relevant pedagogical literature, with a focus on the role of the transformative teacher to promote the use of close-to-practice research to improve teaching and benefit the learner. The refinements will also be based on the critical evaluation of qualitative and quantitative data collected during the lesson study. The intended purpose of the research project is to better understand how to successfully implement peer-assessment in lessons as an assessment for learning (AfL) strategy which can provide regular and useful feedback to pupils to better aid progress.

Research context

The observations and interviews which will be carried out as part of this research project will take place in a mixed gender comprehensive school in South Wales (Welsh Government, 2019a). In keeping with the *Ethical Guidelines for Educational Research* (BERA, 2018), the school will be referred to as 'School X' throughout this report.

Only 6.8% of pupils at School X are registered for free school meals (Welsh Government, 2019a) and this figure is significantly less than the national average in Wales of 17% (Estyn, 2017). The cohort of pupils at the school covers a broad range of abilities and has 20.5% of pupils with additional learning needs. School X also has a high percentage of attendance as well as high performance outcomes (Welsh Government, 2019a; Estyn, 2017).

The lessons observed and taught as part of the lesson study will take place in two different mixed ability Year 7 science classes in School X, both studying the same scheme of work.

Overview of literature

AfL encompasses a broad repertoire of strategies which can be employed in the classroom in order to identify levels of pupil progress and to inform next teaching and learning steps (Bowen and Ellis, 2009; Tillema, Leenknecht and Segers, 2011). Peer-assessment is a commonly used AfL strategy (Welsh Assembly Government, 2010) and has been deemed to be effective as it has been shown to provide benefits to learners giving and receiving peer feedback. Benefits to the pupils carrying out peer-assessment include active engagement in the evaluation of whether the success criteria have been fulfilled, consequently better enabling pupils to evaluate their own progress and independently inform their own next

steps (Wiliam, 2013). Furthermore, any evaluative points given to peers during peer-assessment are communicated using speech and language which is likely to be more familiar with the pupil and, as a result, better comprehended (Tillema, Leenknecht and Segers, 2011). Wiliam (2018) has argued that the smaller the delay between completing a task and receiving formative feedback, the greater the chance of that feedback successfully guiding progress and improving learning. Due to a much larger pupil to pupil ratio, than teacher to pupil ratio, peer-assessment allows for formative feedback to be provided with a much greater frequency (Topping, 2009). Because of the great potential that peer-assessment possesses in terms of providing regular, easily comprehensible and engaging formative feedback, it is frequently employed during lessons. Due to this, it is greatly important that peer-assessment is employed effectively in order to maximise its potential benefits.

While peer-assessment can provide many benefits it still has some qualities which may be disadvantageous to learning. For example, if pupils have a relatively weak understanding of the content and success criteria of the tasks they are evaluating during peer-assessment, it is likely that the resulting feedback would be at best, useless, and at worst, misleading, confusing learning and reinforcing misconceptions (Brown, 2019). However, these potentially harmful outcomes of peer-assessment can be overcome if pupils involved in peer-assessment are given clear guidance and structure from the teacher and are provided with clear and simple success criteria (Tillema, Leenknecht and Segers, 2011). While most studies mentioned in the pedagogical literature relating to peer-assessment aim to illustrate and explain its implications on learning outcomes, few studies actually take pupil voice into consideration. While measuring learning outcomes might be considered a good indication of the efficacy of peer-assessment in the learning process, improved test score outcomes cannot always reflect a level of better understanding and deeper learning. It would be difficult to know whether to attribute improved test scores to improved understanding as a result of peer-assessment, or merely to a greater level of superficial learning relating to *how* to complete the test (Black *et al.*, 2007). Another disadvantageous outcome of peer-assessment is its possible implications on pupil self-esteem (Dall’Alba and Vu, 2007, Meihami and Razmjoo, 2016). Some pupils may be embarrassed to have their work assessed by their peers if they think they have done poorly. In turn this may effect a pupil’s sense of well-being within the classroom environment. As has been strongly argued by Ferre Laevers (2005), pupil well-being has significant implications on learning, as a learner who does not feel fully comfortable is less likely to be as receptive to new concepts and experiences, or as able to focus. This is because if learners do not feel comfortable, they are

shown to have lower confidence and take fewer required risks, making it more difficult to progress through their zone of proximal development (ZPD) (Dubiel, 2014; Wallace 2009). Deluca *et al.* (2018) led a study which investigated perspectives of AfL techniques in a survey of 1079 pupils. Their findings illustrated that pupils ranked peer-assessment as the least helpful AfL method, whilst scoring teacher feedback as the most helpful form. However, when analysed more closely, the survey described peer-assessment as “giving feedback to other students” (Deluca *et al.*, 2007, Table 5), which does not encompass all aspects of peer-assessment, especially in terms of receiving feedback from peers. As a result, these findings cannot fully be relied upon as a means of determining pupils’ perceptions of peer-assessment.

While peer-assessment possesses great potential to improve learning experiences and better aid pupil progress, if it is to be used regularly as a tool for AfL it is important that it is employed effectively so as to maximise its potential benefits and reduce the likelihood of any negative implications on learning and wellbeing. There is a large body of evidence present in the pedagogical literature relating to the advantages and potential shortcomings of peer-assessment. However, there is relatively little reliable evidence from which pupil perceptions of peer-assessment can be analysed and evaluated to help to ensure its effective implementation (Deluca *et al.*, 2018). In order to better understand how peer-assessment can be employed more effectively to improve learning experiences, in terms of aiding understanding to enable progress and ensuring high levels of pupil well-being, it was decided to research this area further. In account of the literature, and relating to the title of this report, the research question ‘How can peer-assessment be used effectively to improve the learning experiences of Year 7 pupils?’ was devised.

Methodology

This close-to-practice research project focuses on the critical evaluation of the use of peer-assessment to improve the learning experiences of Year 7 pupils in mixed ability science classes. A lesson study has been chosen as the research method for this research project (Godfrey *et al.*, 2019; Cheung and Wong, 2014) and, following analysis and synthesis of relevant pedagogical literature, involves the careful planning of a Year 7 science lesson involving the use of peer-assessment (please find the related lesson plan in Appendix 2). The planned lesson will then be taught to a mixed ability Year 7 class and observed by a research partner. Following the lesson, three selected case students will be interviewed using the interview questions found in Appendix 6. After reflection and evaluation of the data (collected in the observation schedule and in the interviews of case students) in relation to

relevant pedagogical literature, the lesson plan will be refined surrounding the use of peer-assessment and taught to a different mixed ability Year 7 science class by the research partner. This lesson will also be observed and observation notes will also be written using the same observation schedule. Three selected case students from the different Year 7 class will then also be interviewed with the same interview questions which were used in the first interview.

The methodology chosen for this research project involves the use of a 'Lesson Study'. Dudley (2014) describes lesson studies as involving collaborative planning of 'research' lessons with a particular focus on a specific aspect of teaching. The planned lesson is then taught and observed, focusing on around three 'case pupils', each of whom represent separate groups of learners within the class. In turn this allows for the analysis and subsequent refinement of the aspect of teaching practice selected for development.

Dudley (2014) outlines numerous advantages of using lesson studies in order to carry out close-to-practice research. For example, a lesson study can take place in any class with real pupils, so is representative of authentic teaching and learning experiences. It is also argued that lesson studies enable teachers to investigate the reality of their assumptions with regard to the effectiveness of teaching practices (Godfrey, 2019; Cheung and Wong, 2014). The analysis of teaching practices involves the perspectives of the research partner and of case pupils. This multiple perspective approach to analysis of data helps to reduce the impact of bias and increase the reliability of conclusions drawn from research findings.

The type of observation involved in the lesson study was a non-participant classroom observation to help to avoid interactions with the observer influencing pupil behaviour (Welsh Assembly Government, 2008; Kumar, 2014). Nevertheless, the Hawthorne effect, whereby the mere presence of the observer is able to influence behaviour, is not able to be ignored (Wallace, 2009; Kumar, 2014). In order to help to combat this issue, the observer sat towards the back of the classroom.

It was decided to keep a written record during the research lesson observations using an observation schedule (found in Appendices 4 and 5) which was designed to provide structure to the observation and allow the recording of qualitative and quantitative data (Estyn, 2014; Frankel and Hobart, 2004). Benefits of qualitative data recording include the freedom to record as much detail or contextual information as is deemed appropriate (Estyn, 2014; Kumar 2014; Wragg, 1999). This contextual information may be especially important

in the evaluation and explanation of findings (Creswell, 2014). However, recording written, qualitative data during classroom observations can be difficult in terms of knowing what information may be useful and in terms of the difficulty of recording all relevant information if scenarios are taking place simultaneously in different spatial locations (Frankel and Hobart, 2004). In order to overcome this, the structure of the observation schedule was designed to focus mainly on three selected case students. This was designed to minimise the difficulty of trying to record an overwhelming amount of qualitative data relating to any pupils in the class. However, the observation schedule still had sections in which qualitative data relating to the lesson details and general classroom environment could be recorded. This allowed for a simple overview of the whole class to be made and for any important contextual information to be included. Conversely, while recording quantitative data allows for clearer and more directly comparable findings to be drawn, it does not allow for the provision of any other contextual information. The quantitative data collected was based on the 'Leuven Scale of Involvement and Well-being' (Laevens *et al.*, 2005) and can be found in appendices 4 and 5 alongside the observation schedule is aimed to give an indication of how comfortable and engaged pupils are during a lesson based on the satisfaction of multiple criteria listed alongside each score. This successfully allows for more objective conclusions to be drawn, which are less subjective to observer bias. However, this scale has also received criticism as learners' levels of well-being and engagement are rarely constant throughout the course of a lesson, thus making it difficult to know what score to give a certain pupil if their behaviour has fluctuated dramatically (Dubiel, 2014). Resultantly, the Leuven Scale scores must be understood to portray only a general overview of each pupil's engagement and well-being. Therefore, it was decided to include both quantitative and qualitative data recording during the lesson observation in order for findings to provide focused, clear and easily comparable numerical data, alongside any important detail relating to each case pupil and the learning environment and any significant changes or patterns over time.

It was decided to interview and more carefully observe three case pupils involved in the research lessons, as advised by Dudley (2014). The three case pupils were selected on attainment; a relatively low attaining pupil, a student with medium attainment scores and a 'more-able' pupil. The use of case pupils also greatly strengthens the ability of lesson studies to successfully guide planning and teaching because it promotes better awareness of the individual personalities within a class (Danby, Ewing and Thorpe, 2011). While a deeper understanding of the selected case pupils is fostered, an appreciation of the different needs of *all* pupils within the class is also improved (Dudley, 2014). However, there are

disadvantages of selecting case pupils who are deemed to typify certain groups of pupils within the class. Influences of teacher perception may result in pupils being chosen to represent a group of pupils which they are incorrectly perceived to belong to, in turn skewing conclusions regarding those specific groups. Furthermore, the lesson study approach relies on the assumption that the needs and opinions of all pupils within certain groups are broadly the same. There is no investigation into whether the needs and opinions of all pupils within a specific group are consistent. Therefore, the data obtained would not allow for extrapolations to form the basis of general conclusions pertaining to pupils of particular groups, other than those selected case pupils (Hartas, 2010).

It was also decided for the interview to be conducted with all three case pupils present at once so as to improve the confidence of the interviewees and promote more in-depth discussion of answers. This also enabled for the interview of all case pupils to take place soon after the research lesson. This is argued to strengthen the reliability of the responses obtained during the interview due to the fact that there is less time for the case pupils to forget minor details of the lesson and the intricacies of their feelings following the lesson (Danby, Ewing and Thorpe, 2011). However, one possible effect of interviewing all three case pupils simultaneously is that the views of certain case pupils may have influenced the views and effected the answers of the other case pupils. It is also not possible to account for the effect this may have had on the interview responses given, which may not have been altered at all, but also may also have been altered significantly. In order to help to maximise the level of honesty and minimise any feelings of pressure to give a certain answer during the interview, the case pupils were all reminded that their honesty was appreciated and that their views would not effect their future treatment in any way.

It was decided for the interview to be audio-recorded in order to enable a full transcription of the case pupil responses to the interview questions, which can be found in appendices 7 and 8. This ensured that any important detail was not lost and that responses could be more carefully analysed in full, reducing the likelihood of any answers being misconstrued. The interview questions were designed to be open and non-leading, so as to minimise the interviewer's influence over the type and content of the responses given.

Finally, it was decided to use the Assisted Reflected Conclusions (ARC) model (appendices 9 and 10) to provide structure to the reflection of the first research lesson of the lesson study, in order to inform adjustments to the use of peer-assessment in the second research lesson. The ARC model was then planned to be used again to reflect on the implementation

of peer-assessment in the second research lesson in order to inform recommendations for future practice. It has been shown that reflection models are valuable in providing structure to the analytical and evaluative processes involved in drawing conclusions from research findings (Shapira-Lishchinsky, 2011). Methodical, critical reflection is of great importance in the development of best teaching practice and can aid in the improvement of the learning environment to promote enhanced pupil progress in future lessons (Welsh Assembly Government, 2008; Griffin, 2003).

Ethical considerations

There are a number of ethical considerations which have had to be addressed in this research project. Firstly, all pupils participating in the research had to gain written and signed consent from their parents / guardians in order to be involved. A copy of a blank consent letter can be found in appendix 1. Secondly, after explanation of the implications and purposes of the research in lay terms, verbal assent was required from all pupils participating in research lessons and was required again during interview. All data recorded relating to participants has been kept fully anonymous, in line with anonymity guidelines and case pupils have been referred to as 'Student 1', 'Student 2' and 'Student 3' (BERA, 2018). All data is treated with confidentiality, with digital documents being stored on password protected and data encrypted computers and physical documents stored in a locked cupboard, in adherence with the university's Research Data Management Policy. All raw data will be destroyed after use. Participants and their parents / guardians have been made aware that they are able to opt out of the research project and withdraw from consenting to their data being used for the purposes of the research project. Participants were also reminded that any opinions shared during the interview would not effect their future treatment in any way and that their honesty is valued.

Research lesson 1 results and analysis

Lesson study 1 was carried out in a mixed ability Year 7 science class and the lesson objectives were focused around revision in preparation for an end of topic test. As can be read in the 'lesson details' section of the observation schedule (Appendix 4), the lesson involved a multiple choice revision quiz and after completion, pupils were given time to peer-assess this using an answer sheet with recommended next steps. This was intended to provide structure and support to the peer-assessment to aid in the provision of useful feedback. As can be read in the observation schedule (Appendix 4) the whole class engaged in the quiz and its peer-assessment and no pupils appeared to be obviously disconcerted by the inclusion of peer-assessment.

As previously discussed, the case pupils chosen for this were selected based on attainment levels. Student 1 was selected as an averagely attaining student, Student 2 was selected as a MAT student and Student 3 was selected as a lower attaining member of the class. Student 1, Student 2 and Student 3 had high levels of engagement throughout the lesson, scoring 4, 5 and 5 respectively on the Leuven Scale of Involvement and 4 on the Leuven Scale of Well-being (found alongside the observation schedules in appendices 4 and 5). This indicates that none of the case pupils were deterred from engaging in the lesson due to the inclusion of peer-assessment. These high scores on the Leuven Scale of Involvement may go as far as to suggest that peer-assessment actually contributed to the pupils' high engagement levels during the lesson. This is further supported by the qualitative observation notes which detail that all case pupils could be seen and heard discussing their answers with their peers and using the answer sheets to determine their peers' next steps. While the wellbeing scores were also relatively high, the scale indicates that any 'obvious signs of satisfaction...are not constantly present with the same intensity.' Although Student 3 did not appear to be affected by the peer-assessment of her work, she was seen to cover her work when a male pupil showed interest in her marks. This suggests that in this lesson Student 3 may have felt relatively comfortable with peer-assessment, but depending on which peer was to assess her work, she may feel less comfortable in other instances.

The findings from the interview of the case pupils, which took place immediately after the lesson, help to give a greater insight into the effects of peer-assessment on the pupils' sense of wellbeing. The full transcript of the interview is found in Appendix 7. It was interesting to find that Student 2, the MAT pupil, and Student 3, the lower attaining pupil, both expressed views explaining that they didn't like peer-assessment because they felt that they would be humiliated by their peers if they didn't perform well. The MAT pupil mentioned some, but not all, peers would "tell their friends" and that "make fun of" her if she got a low mark. Meanwhile, Student 1, who had relatively average attainment scores explained that she was not averse to peer-assessment as she understood that everyone makes mistakes and that recognising mistakes can enable progress. These differing opinions may be owing to the fact that the MAT pupil rarely scores low marks and so that some more competitive members of the class may use these instances to boost their own self-esteem in relation to their own marks which would normally be lower than those of the MAT pupil. Therefore, it is possible that pupils' lack of self-esteem relating to their own progress means that when a pupil they recognise as 'more-able' achieves lower marks than usual, they have less reason to feel insecure about their own progress and so bring this to the attention of their peers. This

would explain why Student 1, with lower attainment levels than Student 2, does not feel judged or embarrassed if a peer was to know she had made mistakes in her work, whereas Student 2 feels like she would get “made fun of”. Student 3, however, also expressed that she can feel embarrassed during peer-assessment because “people would make fun of [her]”. This may be explained by the fact that Student 3 may have relatively low self-confidence in relation to her progress in lessons as she may be aware that she tends to attain lower marks than other pupils in the class. In light of these findings, following reflection using the ARC model (Appendix 9) and review of pedagogical literature, the use of peer-assessment may be improved by explaining to the whole class that mistakes are natural and an integral part of the learning process and that rather than demonstrating a lack of ability, learning from mistakes enables enhanced progress (Eva, 2017; Metcalf, 2017). This may help to improve the self-esteem of all learners, thus creating a more supportive social environment in which all learners feel comfortable to make mistakes and feel less inclined to judge the mistakes of others (Brown, 2019; Black *et al.*, 2007).

Student 3 and Student 1 were both able to describe some of their perceived benefits of peer-assessment including improving confidence and aiding progress through learning from mistakes. Student 2, however, did not think there were any advantages of peer-assessment, potentially owing to her high levels of independence and a strong desire to assess and continually improve her *own* progress. This is supported by statements from Student 2 which highlight that she finds feedback from the teacher the most useful assessment form, followed by self-assessment as teachers are more knowledgeable and can better explain how to improve. These findings may be explained using Vygotsky’s social constructivist theory whereby, in order for a learner to progress through the ‘Zone of Proximal Development’ (ZPD) they require the support of a ‘More Knowledgeable Other’ (MKO) (Wallace, 2009). In the case of the MAT pupil, a peer may not be able to act as a suitable MKO, due to having a poorer grasp of the content and success criteria. This may explain why Student 2 doesn’t think peer-assessment offers any benefits. This possible explanation is further supported by statements from Student 2 describing that when carrying out self-assessment she often asks her older sisters to provide support at home. It seems significant that Student 2 does not choose a peer in her class as an MKO, but instead chooses her older siblings who she deems more knowledgeable, and thus more able to support her through the ZPD. This finding suggests that careful pairing of pupils of similar ability levels to carry out peer-assessment may render the formative feedback gained from peer-assessment, and the evaluation involved when carrying out peer-assessment, more useful. This strategy may also improve levels of self-esteem as pupils who are likely to achieve similar grades would

not have to feel embarrassed at the prospect of someone who has attained much higher marks evaluating their relatively low level of progress. In turn, improved levels of self-esteem and wellbeing can improve confidence and focus on the learning (Brown, 2019; Laevers, 2005).

Research lesson 2 results and analysis

The second research lesson involved in the lesson study took place with a different mixed ability Year 7 science class in School X. As can be seen in Appendix 3, the lesson plan for this second lesson was refined based upon the findings from the first research lesson, in order to improve the use of peer-assessment. These refinements centered around a whole class discussion on the value of learning from mistakes and pairing pupils of similar attainment levels for the peer-assessment task. For more detail and contextual information please see the observation schedule for this research lesson in Appendix 5. The case pupils selected were also selected based on attainment levels with Student 1 being an averagely attaining pupil in the class, Student 2 being a high attaining pupil and Student 3 being a lower attaining pupil. As can be seen on the observation schedules the scores on the Leuven Scale of Involvement were the same as in the first research lesson, and whole class engagement levels seemed to be similar, indicating that peer-assessment seems to consistently engage pupils. However, it should be noted that these observations have only taken place in two lessons, so there is not sufficient data to draw any strong conclusions from this finding.

For the averagely attaining case pupil, Student 1, and the MAT pupil, Student 2, well-being scores on the Leuven Scale were both 5, greater than those of the case pupils in the first research lesson, who scored 4. This may suggest that the refinements made to the use of peer-assessment successfully improved how comfortable pupils felt during the lesson. However, the well-being score for the lower attaining pupils was reduced, from 4 to 3 which does not support this possible explanation. It should be noted that Student 3 seemed notably quiet, displaying very neutral emotions, even before the peer-assessment task was mentioned to the class. This indicates that the reduced well-being of this pupil, when compared to that of Student 3 from the first research lesson, may have been due to external factors or a difference in general demeanor and individual personality. The improved well-being scores of Students 1 and 2 in the second research lesson, as opposed to those in the first research lesson, are not enough to simply assume that the refinements made to the use of peer-assessment were responsible. In order to determine this, the findings from the

interview can give greater insight into the possible reasons for the improved well-being scores.

The findings from the interview of the second research lesson will now be analysed however it should be noted that Student 3 was not able to be present due to reasons which could not have been foreseen. Please find the full transcript in Appendix 8. It is interesting to see that the pupils in this second interview seemed to be more concerned about whether their peer would be able to understand the written communication of what they were assessing, rather than any possible embarrassment over judgment of performance. This is possibly as a result of the pupils feeling more confident and safe to make mistakes after the class discussion (Eva, 2017) and as a result of being paired with a peer of similar attainment (Dylan, 2013). While Student 1 and 2 also ranked peer-assessment as the least comfortable assessment form, as in the first interview, their statements did not seem to be strongly opposed to peer assessment. The pupils also recognised that peer-assessment can reduce chance of cheating (unlike self-assessment) and that it can be helpful to evaluate your work in comparison to someone else's. Although, Student 1 and Student 2 made remarks stating, "if someone else is marking it you don't know whether you've done it right or where you've gone wrong" and, if "someone else is marking it you can't see how you got it wrong", respectively. As was reflected upon using the ARC reflection model (Appendix 10) these views indicate a further area for improvement in the use of peer-assessment; ensuring that there is time specifically allocated for independent reflection on the formative feedback provided.

Research Findings and Conclusions

As previously discussed in the research lesson analyses, the findings from the lesson study indicate that peer-assessment can have negative impacts on pupil self-esteem. This is supported by findings in the wider literature that all highlight the possible impacts of peer-assessment on pupil well-being (DeLuca *et al.*, 2018; Dall'Alba and Vu, 2007; Meihami and Razmjoo, 2016). Findings relating to the disadvantageous effects peer-assessment can have on pupil self-esteem were strongly present in the interview of case pupils from the first research lesson. Therefore, the use of peer-assessment was refined, with the inclusion of a class based discussion of the value of learning from mistakes and respecting the mistakes of others (Eva, 2017), and by pairing similarly attaining pupils, in order to reduce the negative impacts upon well-being (Egan and Costello, 2016). This appeared to be successful and was supported by the case pupils in the second research lesson who both had high levels of well-being throughout the lesson, and made comments that were much less strongly

opposed to peer-assessment in terms of its impact on self-esteem than the case pupils in the first research lesson. It is important to note that as this data has only been collected from two classes and has focused on a small number of case pupils. The findings relating to the refinements of the use of peer-assessment effectively improving pupil well-being and self-esteem during peer assessment are encouraging. However, alone, the findings are not taken from a large enough sample size to be able to form any robust conclusions which are able to be drawn more widely than the case pupils and Year 7 classes involved.

Nevertheless, when considered alongside the pedagogical literature, it can be concluded that in order for peer-assessment to improve the learning experiences of Year 7 pupils, it needs to be employed effectively, with careful acknowledgment of its possible impacts on self-esteem.

Recommendations

As had already been established if peer-assessment is to provide useful, informative feedback to progress learning, it requires the provision of clear success criteria and this should be continued to be implemented (Wiliam, 2013; Welsh Assembly Government 2010). From critical evaluation of the pedagogical literature and findings from this research project, the effective implementation of peer-assessment to enhance learning experiences also requires the cultivation of a supportive peer environment to minimise the risk of any negative impacts on self-esteem (Eva, 2017; Tillema, Leenknecht and Segers, 2011; Dall’Alba and Vu, 2007), which in turn can distract from and negatively impact upon learning (Laevers, 2005). In this research project, this seemed to be effectively achieved following a class discussion on the value of learning from mistakes and respecting the mistakes of others (Welsh Assembly Government, 2010). Not only did the careful pairing of peers seem to also improve levels of well-being, it served to increase the usefulness of the peer-assessment to both the assessor and the receiver of feedback. To further improve the use of peer-assessment the findings suggested allocating specific time for reflection of feedback generated by peer-assessment (Egan and Costello, 2016; Welsh Assembly Government, 2010). These are some ways in which the use of peer-assessment may be improved in future practice to improve the learning experiences of Year 7 pupils. However, guided by reflection on pedagogical literature, teacher discretion and understanding of particular classroom environments should continue to form adaptations and refinements to peer-assessment to best meet the needs of pupils which differ in ever varying contexts (Donaldson, 2015; Wiliam, 2013).

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