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Abstract

Assessment in schools has been an on-going issue since the introduction of national testing in 1998. The format of the assessment can pose significant barriers to some candidates especially when the assessment places high demands on non-subject specific skills such as literacy. The purpose of this enquiry was to improve my practice when teaching pupils how to structure a written response to the eight mark scenario questions in the AQA GCSE PE examination and as a result to also improve pupils' achievements in this area of the paper. The pre and post-intervention results of nineteen participants from School A were analysed. The intervention consisted of literacy examination strategies being taught in PE theory lessons for a period of four weeks. Extra lunchtime support sessions were also provided for participants to attend on a voluntary basis. The results showed that participants with a reading age relevant to their chronological age achieved the greatest improvements, on average +5.7 marks. Participants with reading age slightly lower than their chronological age still showed improvements, +4.3 marks. Conversely participants with a significantly lower reading age showed a decrease in achievement, on average -2.3 marks. Questionnaires completed by the participants highlighted their perceived areas of difficulty and a general positive shift in their perceived difficulty of the eight mark questions was reported after the intervention.

Introduction

Haydn (2013) acknowledges that the setting and reporting of assessment has been a principle issue in education in England since 1988 due to the role national testing adopted in monitoring standards in schools. But even though one function of national testing is to provide data to compare standards between schools, another arguably more important function is to provide candidates with the opportunity to demonstrate their ability in a specific subject in order to achieve certification. This will then broaden the range of opportunities available to them in the future. However, the question that should perhaps be posed is: does national testing provide equal opportunity or are there barriers preventing achievement by all candidates?

Literature Review

'Assessments should enable pupils to demonstrate knowledge, skills and understanding in a variety of ways' (Golder, 2010: 249). This quote recognises that just as pupils learn in a variety of ways it is important that they are also given the opportunity to demonstrate what they have achieved in a form of assessment that suits them. Vickerman (2010) supports the notion that if learning outcomes are to be differentiated to remove barriers to learning then it is equally important to then modify assessment and provide alternative methods. 'General Certificates of Secondary Education (GCSEs) are the most common form of certification of student achievement at school leaving age' (Crisp, 2011: 325) but until recently there were a variety of different vocational options such as applied subjects. Each were assessed slightly differently but were still equivalent to a GCSE on some scale. For example many applied subjects were

Citation

internally assessed through a portfolio of evidence. But as Vasagar (2012) highlights, with the current GCSE reform more than three thousand vocational qualifications are to be stripped from GCSE league tables, significantly reducing the options available to students in schools. Both of my placement schools enter candidates for the AQA Physical Education GCSE and on discussion with both departments it emerged that many pupils find the examination aspect of the assessment process challenging for a variety of reasons.

> The General Certificate of Secondary Education (GCSE) has been designed and developed as an 'inclusive' qualification accessible to the whole Key Stage 4 cohort in England, Wales and Northern Ireland as an opportunity to demonstrate positive achievement.
>
> Woods, 2004: 122)

Changes that have been made in recent years really do question the extent to which GCSEs are inclusive. Haydn (2013) asserts that in addition to written examinations other assessment strategies such as oral and poster presentations should be incorporated. Yet current assessment processes seem to be travelling in the opposite direction. September 2009 saw controlled assessments replace coursework due to the potential issues of plagiarism and excessive contribution from external sources such as parents (Youens, 2013). But many higher education courses assess through assignments and put measures in place to combat plagiarism so why similar measures cannot be incorporated at secondary level education remains questionable. Instead the government has chosen to place greater emphasis on a single written exam at the end of the two year program of study. This approach has raised concern regarding the potential barriers it will raise for many candidates.

A study carried out by Woods (2004) examined the barriers posed by written examinations from a student perspective. 71% of the candidates involved in the study stated that time constraints were a significant barrier to achievement in examinations (Woods, 2004). 61% favoured coursework to examinations as they felt that it removed the barriers of anxiety and allowed for more creativity – an area they felt that is often stifled due to the constraints of the examination process. Although 10% reported that they did like some part of the examination process many others stated that the examination setting such as the size of room, temperature and presence of unfamiliar invigilators were all contributing factors to increased anxiety levels (Woods, 2004). However it must be noted that this study only took in to account the opinions of sixty-six candidates when the reality is that thousands of pupils sit GCSE examinations every year. Although time, anxiety and restrictions in creativity due to the nature of questions are all potential barriers to candidates, as a trainee teacher I have no control over the method and set up of assessment and cannot therefore overcome such barriers. Subsequently, I will explore other barriers that the pupils I teach may be faced with.

Joint Forum (1999) insists that examinations should pose an opportunity for candidates to demonstrate their achievement in a particular subject and should not be a test of non-subject-specific skills such as literacy or speed of processing. However, several studies have made the link between literacy levels and academic achievement (Conti-Ramsden *et al.,* 2009; Dockrell *et al.*2007; Dockrell *et al.* 2011). Specifically, Dockrell *et al.* (2011) highlighted the significant relationship between literacy levels in reading, writing and spelling and attainment of GCSE points. The BDA also argue that due to the literacy demands of the new GCSE reform many dyslexic pupils as well as pupils with other specific learning difficulties will also be disadvantaged (SEN Magazine, 2015).

Crisp (2011) explored particular features of GCSE questions that are likely to act as a barrier for candidates with reading difficulties. Questions that placed less demands on reading ability

generally resulted in good performances from candidates with weaker reading skills (Crisp, 2011). In the AQA examination paper the scenario section poses the greatest demand on reading. It is therefore not surprising that the examination report in 2013 identified this as an area of weakness for students. Similarly, Crisp *et al.* (2007) believe that the required format of the response also poses as a barrier to achieving the upper marks for many pupils and more specifically, that question difficulty increases when the demand on writing ability is higher. This is also an apparent barrier for candidates sitting the PE GCSE. 'The vast majority of students did try to write in continuous prose…but the use of specialist terms, spelling and grammar was disappointing' (AQA, 2013:5).

The Joint Council for the GCSE (1992) maintains that regardless of the level of the examination the wording of questions should be unambiguous and not a barrier to attainment. Yet on the other hand, a study carried out by Crisp and Sweiry (2006) contests this. They believe that question features such as presentation and wording can and do negatively impact on the difficulty of the question. This is also supported in the report of the examination of June 2013 when many students did not show that they had understood what the question was actually asking of them.

This question was probably misunderstood by a large percentage of students, who wrote a lot about the different types of media rather than how it influenced Sarah's participation in sport. (AQA, 2013:5)

Need for this Work
On discussion with other trainee PE teachers it emerged that schools in Cornwall commonly follow the AQA PE specification at GCSE level. Further conversations with staff highlighted that many pupils chose to take PE due to perceptions that it was a practical subject. Pupils score highly in their practical assessments but encounter difficulty when it comes to the written element.

Similarly, in my second placement school recent mock examinations were being discussed as pupils had not performed as hoped. I decided to analyse the pupils' performance regarding the eight mark questions and soon discovered that this had been an area where success was very limited; 77% of pupils failed to achieve more than four marks out of sixteen (Appendix). As Lepkowska (2013) quite rightly emphasises, it is the shared responsibility of all teachers to be teachers of literacy. Therefore this is definitely a barrier that I could look to address within my practice with the ultimate aim being to help pupils to achieve the higher marks in the longer scenario questions.

Aims and Purposes
The aim of this enquiry was to determine whether teaching pupils a variety of literacy strategies for the examination would have a positive effect on the marks achieved.

The purpose of this enquiry was to improve pupils' achievements in their examinations. Another purpose was to improve my professional practice as well as to educate my peers and colleagues on effective strategies to enhance academic achievement.

Methodology
Setting
The school used for the purpose of this enquiry was a small rural school of approximately 700 pupils. The school is a mixed comprehensive school with specialist provision for students with

complex and multiple learning needs. The school has a high proportion of pupil premium students. Over a quarter of the participants involved in this study are listed as pupil premium.

Approach to the Study
Action research involves – a commitment to educational improvement, special kind of research question asked with educational intent, putting the 'I' at the centre of the research, educational action that is informed, committed and intentional.
(McNiff and Whitehead, 2010:34).

Niaz (2008) describes positivism as the scientific approach which focuses on the quantitative data to test a particular intervention and ignore interpretations that might be sought from qualitative data. Alternatively, McNiff (2002) explains action research from an interpretivist approach.

The idea of self-reflection is central…Action researcher is an enquiry conducted by the self into the self (McNiff, 2002:6).

Furthermore an interpretative perspective looks at people as an integral component of the process that continually evolves. This enquiry aims to primarily improve my practice and the achievements of my GCSE PE class. Therefore the intervention will be directed by the emerging and ever changing needs of the pupils in my class and it is for this reason that this enquiry will adopt an interpretivist approach.

Design
Goodwin and Ahn (2010) synthesised the results from seventeen independent studies to investigate the effect intervention design had on literacy outcomes for students with literacy difficulties. They found that interventions of ten or more instructional hours had the most statistically significant mean effect. Although interventions of between five and ten hours still resulted in a positive mean change (Goodwin and Ahn, 2010). Englert (2009) draws attention to her findings that short-term literacy interventions can have strong positive effects. Due to the time duration that I am on block placement at School A the interventions that I will put in place will be for a period of four weeks. Participants will engage with the intervention for eight compulsory hours (two per week in timetabled lessons). Four optional hours will also be made available via lunchtime support sessions.

The Dyslexia-SpLD Trust (2015) emphasises the significance of collecting baseline data; before the pupil receives the intervention and again after the intervention in order to evaluate its effectiveness. For the purpose of this study baseline data was taken from the participants' PE mock examination sat at the end of the autumn term. Participants' scores from the two eight mark scenario questions were recorded. Although it could be argued that this data could potentially be out of date and not take into account participants' developments since Christmas, Haines (2004) stresses the importance of validity when carrying out tests. As this enquiry sets out to improve participants' ability to answer the eight mark scenario questions it is imperative that this is what is measured in the pre and post-intervention tests. Consequently the mock examination period at Christmas provides the most recent data when participants were faced with replica examination conditions. I discussed my concerns with the head of department, who explained that due to the upcoming practical moderation only two theory sessions had been delivered since Christmas so it was unlikely that participants' grades would have altered. After the intervention participants were due to sit their last mock examinations.

As before, participants' scores from the two eight mark scenario questions were recorded (the questions were different from those used in the autumn term mock).

When conducting research, data from different sources should be triangulated in order to support explanations and deepen the understanding of complexities often posed by people and events (McNiff and Whitehead, 2010; Gringeri, Barusch and Cambron, 2013). To address this questionnaires will also be issued to participants both pre and post-intervention.

A questionnaire is an appropriate method to gather data from larger sample sizes (Sharp, 2009). Although questionnaires can be restrictive and may not provide the rich data that might be achieved by another method such as interviews it would not be efficient to conduct twenty-two separate interviews for this enquiry. The questionnaires included both open and closed questions in order to allow participants to express a broader range of ideas and opinions as suggested by McNiff and Whitehead (2010). A couple of questions required participants to respond using a Likert type scale to compare feelings before and after the intervention. Strange *et al.* (2003) found that pupils were less confident and more concerned when required to respond to questionnaires administered by teachers rather than the researchers. For this reason I administered the pre-intervention questionnaire myself and made sure that I was available to respond to any questions. On the other hand participants were not scheduled to sit their last mock examination until the last week of term, by which time I was back in my first school. To try and minimise any effect this might have had I showed participants the questionnaires before I left and invited them to ask any questions then. I had worked closely with the class teacher during the design of this enquiry so felt more confident in his understanding of the process compared to the feelings of Strange *et al.* (2003) in the same situation.

As the questionnaire was distributed to children, some of whom have literacy difficulties it was important that this was taken into account during the design and completion stages as noted by Sharp (2009). Strange *et al.* (2003) state that time can be a constraint that prevents adequate support being given to pupils with literacy needs when completing questionnaires. However, this is understandable when you consider that their study administered questionnaires to over four thousand students and this should not be an issue during this much smaller enquiry. I ensured that the language used in the questionnaires was simple and read questions out to those that I suspected would have difficulty. I offered to scribe for some participants as I knew that they would not record the extent of their opinions if it meant they had to provide a written response. It must be noted that due to my absence this was not possible when the post-intervention questionnaire was administered but the class teacher was available to provide support when requested. Although McNiff and Whitehead (2010) warn that face-to-face questionnaires can influence the responses of participants. I tried to minimise this by reassuring participants that questionnaires would remain anonymous and I would not pass on any individuals' comments to the class teacher. Due to the relationship that I had built with the class before the intervention I feel that by approaching the pre-intervention questionnaires in this way I received more detailed responses than I would have done if the participants had completed them independently.

Ethical Considerations
In line with guidelines set out by McNiff and Whitehead (2010) permission had to be sought from the head of department at School A. Once permission had been granted potential participants and their parents were given an information sheet outlining the details of the study. As emphasised by BERA (2011) participants and their parents were informed of their right to withdraw at any time during the process. Two copies of the information sheet were

sent to the parents/guardians of each potential participant. A consent section was included and all participants returned a signed copy, which was kept in a secure cabinet by the head of department, and kept the other for their own reference.

Although BERA (2011) states the necessity for parents to give permission when participants are under the age of consent, Wyse (2006) draws attention to the notion that this can often prevent children from exercising consent and can result in them participating in something they either do not understand or would rather not be involved in. To try and overcome this I arranged a meeting for all participants prior to the start of data collection. Acknowledging further guidance from McNiff and Whitehead (2010) and due to the focus of this enquiry being on literacy difficulties it was particularly important that participants were given all of the information orally as well as visually. Participants were encouraged to ask any questions that they might have and were reassured that questions could be asked at any point during the process.

Ethical concerns 'should continue through to the write-up and dissemination stages' (Wellington, 2000:3). To ensure anonymity throughout the process participants were not required to record their names on the questionnaires or mock examination papers. Participants stapled all paperwork together and each assigned a number to make the analysis process more accessible. Participants will be referred to by the number as suggested by Strange *et al.* (2003) and the participating school will be identified as School A throughout to maintain anonymity yet allow linkages. McNiff and Whitehead (2010) state that complete anonymity is difficult to achieve when conducting action research involving yourself. I agree that it may be possible for those that I have worked closely with to identify School A but due to the use of numbers rather than initials the ability to identify individual participants should be significantly reduced. In line with the ethical consideration that, 'educational researchers must endeavour to communicate their findings…' (BERA, 2011: 10), I will share any findings with my peers on the ITT course, professional colleagues and academic tutors.

Participants
Qualitative research aims to 'enhance understandings of selected individuals or groups' experiences' (Devers and Frankel, 2000:2). Purposive sampling is often employed to ensure that participants possess certain characteristics which will enable the research question to be answered (Devers and Frankel, 2000, Hambrick *et al.* 2015). Random sampling could also have been used which involves an equal chance that each subject could be chosen (Gratton and Jones, 2004). By adopting random sampling certain individuals would have been excluded from the enquiry which may have concealed the extent of the intervention's impacts. Gringeri, Barusch and Cambron (2013) promote random sampling as an effective approach to minimise sample bias and gain a representative sample of the population. However as this enquiry's aims was not to infer generalisations from a sample to a population it was not deemed an appropriate method.

School A was selected for the purpose of this enquiry due to accessibility. Additionally, as this was one of my placement schools it enabled me to develop relationships with participants before carrying out any intervention. As this approach primarily sets out to improve professional practice it was important to conduct this enquiry with a class that I would be teaching as part of my everyday practice. As a result participants were purposively selected based on certain characteristics; they were in year eleven and enrolled on the AQA GCSE Physical Education course and due to sit their exam in May 2015. Initially pupils would only be included if they had a low reading age but in line with BERA guidelines (2011) it would not have been ethical to deny a group access to a potentially beneficial intervention. Furthermore early

data collection identified that out of the twenty two pupils enrolled on the course 77% failed to achieve more than a quarter of the available marks for the eight mark questions within the paper (Appendix). Thus it was decided to include the entire cohort of twenty two in the enquiry. The age of the participants was 16years ± 6 months.

Intervention

Over half of the responses from the pre-intervention questionnaires recorded reading, understanding and inferring the eight mark questions as the main barriers to achievement (Figure 1). Subsequently, I decided that the examination strategy incorporated into the theory lesson for week 1 of the intervention would be question inference through the use of highlighting the main themes and key words.
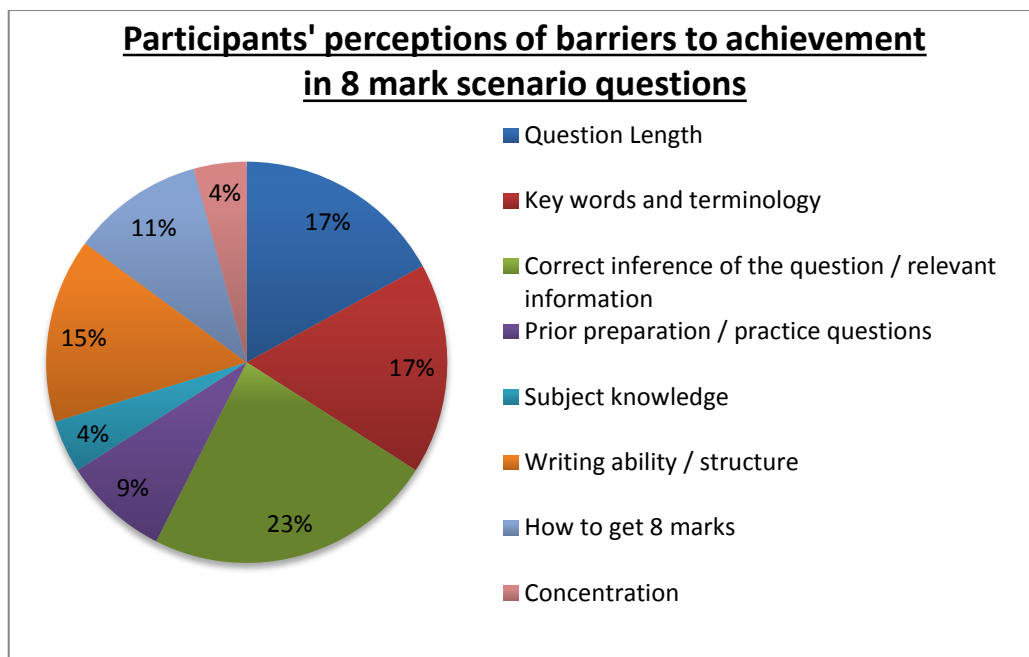

Figure 1. Participants' perceptions of barriers to achieving full marks in the 8 mark scenario questions after sitting autumn mock examination but prior to any intervention.

Cowley (2002) stresses that before attempting a written response it is important that the question is read, key words understood and then re-read. As 17% of responses (Figure 1) perceived the length of the questions as a barrier, it was comprehensible that participants may become overwhelmed and key words overlooked.

Initial tasks involved participants analysing past examination questions and either underlining or highlighting what they thought to be the key words. Participants were encouraged to show deeper understanding of the questions' meanings by adding annotation around the outside. Bell and Limber (2010) support the use of highlighting and underlining as an effective method as it is one that pupils are often already familiar with and does not require much time investment (Cowley, 2002). Conversely, Dunlosky *et al.* (2013) disagree and assert that the appropriateness of what students highlight is often of very little value; pupils either highlight very little that they can use or so much that key words are then hidden in the mound of highlighted information. I quickly found this was true for many of the pupils in my class. In line with the cyclical process of action research I could see that this method alone was not effective and therefore adopted a different approach with the aim of improving my practice and in turn the pupils' learning (McNiff and Whitehead, 2010).

If pupils are to use a strategy effectively it is important that they are taught how to do so (Williams and O'Conor, 2002). Modelling can be used by the teacher to guide pupils through the thought process to better understand the strategy (Williams and Fisher, 2002). During the second part of week 1's lesson I modelled to the class how to select and highlight key words in previous examination questions, as the lesson progressed I encouraged the pupils to contribute to the process. As warned by Williams and O'Conor (2002) when using a whole class approach it was difficult to ensure that all pupils contributed and due to its restrictive nature may have prevented more able pupils from progressing at an appropriate rate. As a result in weeks 2 and 3 I aimed to get pupils to work more collaboratively.

There are doubtless myriad ways in which jointly negotiated thought can be communally externalised as oeuvres (Bruner, 1996:25).

McNiff and Whitehead (2010) emphasise that learning is not done to people but by people. Subsequently it is important that they are involved in the process. Many theorists have promoted the social features of learning and the benefits that can be achieved from working collaboratively (Vygotsky, 1986; Bruner, 1996; Cumming-Potvin, 2007). Vygotsky (1986: 187) defines the zone of proximal development (ZPD) as 'the difference between a child's level of problem solving while working alone and the child's level with some assistance.' Scaffolding is often used as a strategy to enable learners to progress into their ZPD. 'A scaffold offers support to learners while they acquire the necessary skills and understanding to operate independently,' (Myhill and Warren, 2005: 58).   Hammond and Gibbons (2001) and Maloch (2002) promote the temporary use of the teacher to provide scaffolding support to learners but as I was trying to encourage learners to become more independent I grouped the class based on ability; as suggested by Williams and O'Conor (2002); to assist one another in the problem solving process. I witnessed benefits similar to those reported by Williams and O'Conor (2002), pupils felt more confident to contribute due to smaller group sizes of a similar ability. As I circulated, the discussion I heard assured me that learners were engaged with the tasks and sharing good practice.

Jones (2002) states that writing frames can be used as a scaffolding tool to develop writing ability. As 15% of responses (Figure 1) informed me that writing ability and structure were of concern this was another area that I targeted during weeks 2 and 3 through the introduction of a writing frame. Fisher (2002) supports writing frames as a tool to help struggling pupils become clearer about how to unpick the question and organise their ideas accordingly. Fisher (2002) also states that boys more so than girls prefer to use this strategy. Writing frames can be perceived as too prescriptive and inflexible (Maynard, 2002). I found this to be true when speaking to some of the girls within the group and subsequently sought to find alternatives for them to try.

Wyse et al. (2013) explain that pupils need a range of strategies to choose from when developing their writing. Cowley (2002) suggests mind-mapping to aid with organising ideas as an alternative to more structured writing frames. I introduced this strategy to the class in week 3 and as before I initially modelled the strategy myself and then grouped pupils to work collaboratively using this technique.

9% of responses recorded that participants did not feel well enough prepared for the mock examination (Figure 1). In week 4 I reminded pupils of the strategies that we had covered in the previous sessions and then encouraged them to independently answer a selection of eight mark questions.

The lunchtime sessions throughout the four weeks followed a similar structure to that of the lessons. The same strategies were practised and developed but there was some variation depending on the nature of the individuals that attended each session.

Analysis of Data

The data was analysed using Excel. Initial analysis used graphs to compare the average change in achievement of the eight mark questions by the participants. Excel was also used to represent the means and standard deviation of the data. The participants were categorised into three groups according to their literacy levels. Their literacy levels were determined by their reading age. Group A consisted of nine participants whose reading age deviated less than 6 months from their chronological age at the time of testing. Group L's (seven participants) reading age was between 7 and 23 months less than their chronological age and group LL's (three participants) reading age was more than 24 months lower.

In addition I interpreted the qualitative data sought from the questionnaires. Opinions regarding perceived difficulty of the questions were analysed for all nineteen participants. I also analysed specific comments made by particular students that showed significant improvements; no improvements and a decrease in achievement and have included these in my discussion.

Results

Participant nine withdrew from the enquiry for personal reasons. Participants four and twenty were absent for the post-intervention test as well as two of the intervention sessions. Thus the completed enquiry analysed the data of nineteen participants.
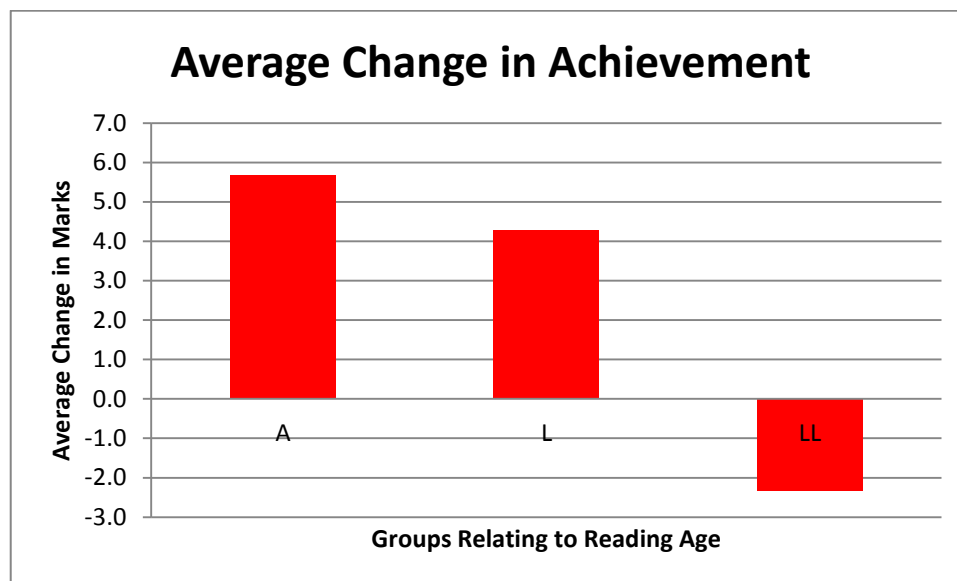

Figure 2. Average changes in achievement in the eight mark scenario questions between pre and post intervention testing for each group of participants

The average change in marks achieved was most significant in group A. These participants had a reading age most comparable to their chronological age and showed an improvement of 5.7 marks on average. Group L, (slightly lower reading age) still showed improvements in their achievements; on average 4.3 marks. Group LL (lowest reading ages) showed a decrease in their achievements of an average of -2.3 marks.
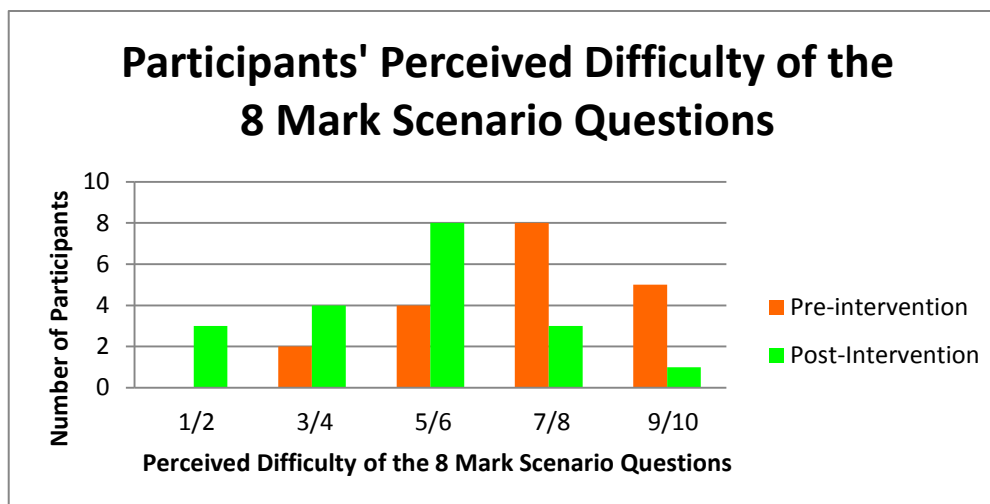
Figure 3. Participants' perceived difficulty of the 8 mark scenario questions both pre and post-intervention.

Participants used a Likert type scale to record their perceived difficulty of questions. Ten indicated that they found the questions incredibly difficult. The modal band pre-intervention was a 7/8 out of 10 whereas post-intervention this had reduced to 5/6.

Table 1. Descriptive Statistics for each group.

	A	L	LL
Mean	5.7	4.3	-2.3
Standard Error	1.0	0.7	1.9
Median	6.0	4.0	-1.0
Standard Deviation	3.1	1.8	3.2
Sample Variance	9.5	3.2	10.3
Skewness	-0.1	0.4	-1.5
Range	9.0	5.0	6.0
Minimum	1.0	2.0	-6.0
Maximum	10.0	7.0	0.0
Sum	51.0	30.0	-7.0
Count	9.0	7.0	3.0

Table 1 showed that there were a different number of participants in each group. The standard deviation was least in group L; 1.8 compared to that of the other two groups; both over 3 highlighting that individual data varied least from the mean for this group of participants.

Discussion of Findings

The most significant improvement in marks achieved was seen by group A (Figure 2). On further analysis of the questionnaires a recurring barrier for this group of participants was that they did not know what the question was asking of them. AQA (2013) support this to be the case for a large percentage of candidates nationally who they believe also had difficulty understanding what the question was asking. Cowley (2002) asserts that it is necessary to keep referring back

to keywords in the question to ensure that answers are relevant. Participant 17 made the greatest improvement (10 marks, Appendix). In the questionnaire participant 17 responded 'I now highlight key words in the question and use these to guide the key points in my answers.' On closer analysis of participants' most recent mock examination it was clear that a large proportion of students had used this method suggesting that it is an effective tool to improve achievement providing the pupil is able to select the correct key words.

Yet this was not the case for all participants. Participant 10 (LL group) showed a decline in achievement (Appendix). Dunlosky *et al.* (2013) warned that highlighting can have a negative effect if too many words are selected defying the point of trying to bring just the most important words to the attention of the reader. Participant 10 highlighted 15 key words in the question yet included none of these in their answer. Despite having the technique modelled for them as recommended by Williams and Fisher (2002) it appears that Williams and O'Conor (2002) were correct in stating that even if a technique is modelled it can be of little benefit if the pupil does not contribute to such whole class approaches. On reflection I noted that participant 10 had very little confidence and did not often offer responses in front of the class and with a reading age of more than three years lower than his chronological age and the reading age of the scenario being seventeen years is it therefore surprising that the majority of the words appeared to be key for this pupil resulting in them being overwhelmed by trying to work out what the question was asking?

All of the pupils in group L made some improvement in their achievement with the average increase in marks standing at 4.3 (Figure2). When delivering the session on the use of writing frames, immediate feedback; largely from participants in group L informed me that most did not realise that you did not have to make eight separate points but in fact sufficiently explaining three points could achieve you your eight marks. In that lesson the structure of participants' responses improved significantly but when I questioned individuals about the strategy the general consensus was that although it had been useful they did not like it. This was particularly true for the girls as predicted by Fisher (2002). 'I found the plan useful but I wouldn't use it in an exam as it would take too much time. However, I have started to use a spider diagram to map my ideas out briefly though.' This reinforces the point made by Wyse *et al.* (2013) that pupils need a range of strategies made available to them and this is what I believe I have achieved during this intervention.

The importance that theorists such as Vygotsky, (1986); Bruner, (1996) and Cumming-Potvin, (2007) place on the social features of learning was previously noted. A large amount of this intervention was delivered in groups during sessions three and four. As I circulated around the groups it was apparent that all groups were on task for the majority of the time. One pupil recorded 'I found working with others really useful, I was able to share my ideas and they helped me to put them on to paper.' McNiff and Whitehead (2010) are very clear that learning is done by people and not to them. People have to want to learn. Participants enjoyed and wanted to engage in tasks set as a group and I feel that this is largely why so many of the participants showed improvement. Table 1 shows that as a class collectively participants achieved eighty marks more in the eight mark questions in the second mock examination than in the first.

However, the biggest disappointment was the decrease in achievement of 6 marks by participant 22 (group LL) (Appendix) and I believe that this is also largely due to participant 22's lack of social engagement. They interact very little with anyone else in the group and rarely take part in group tasks. I also feel that participant 22 is unmotivated and does not have the necessary drive to want to achieve as is stated necessary by McNiff and Whitehead (2010).

Participant 22's responses were also very negative, 'I didn't use any strategies as they don't help me so what's the point.'

Limitations

Goodwin and Ahn (2010) found that interventions consisting of more than ten instructional hours provide the most significant improvements. Although this enquiry did see many participants improve it was also highlighted that three did not (Group LL). None of these three pupils attended any of the lunchtime sessions and therefore only received eight hours of intervention subsequently. It could be suggested that improvements may have been seen from this group if they had received more instructional time.

The reliability of the second mock assessment could also be questioned. Haines (2004) asserts that if the assessors of a piece of work are different there is likely to be some subjectivity regarding their judgements. Moderation is the normal process to be undertaken to reduce any differences between markings. Due to the heavy workload of teachers it would not have been fair for me to expect the class teacher to mark these extra forty-four examination questions consequently I did so myself. My knowledge and experience of the syllabus is far less than the class teachers which could also have affected my judgement. To minimise these effects as much as possible I did meet with the class teacher and marked a couple of examples of past pupils' responses together before leaving for my next school placement.

The validity of the reading age test used to group participants may also be brought under scrutiny. The test was carried out when the participants were in year ten and although I took their age at this time into account when working out the difference between that and their chronological age it does not allow for significant increase/decrease in their reading ability in the last year. This test also only measures reading age and does not take any other literacy difficulties the participant may have into account.

Conclusions

This enquiry felt that the scenario questions in the GCSE PE examination relied heavily on the literacy skills of the candidate in order to interpret the question successfully and then structure a written response and was not testing just physical education ability. Subsequently it was deemed necessary to teach these skills in the subject's theory lessons.

The results of this enquiry found that educating participants on a variety of literacy strategies to be used when sitting examinations has led to an increase in achievement for pupils in groups A and L. I quickly realised that informing and getting the pupils to try the different strategies was not sufficient and modelling proved to be an effective way of improving participants' ability to use the strategy effectively. In my future practice I will use the sequence of modelling – collaborative work – independent work when teaching new strategies. I also feel that providing pupils with more opportunities to practice structuring a written response for PE specific questions led to the increase in achievement.

This enquiry has highlighted to me that all teachers need to be teachers of literacy. I feel that it has improved my professional practice as I am more aware of the literacy needs of my pupils and the skills that I need to teach them besides just PE specific content if they are to be successful in my subject. As it emerged that individual pupils responded differently to each strategy it is important that a range is taught to enable pupils to select what works for them. To encourage the move towards independence I found that getting pupils to work collaboratively was effective. Many of them also enjoyed working with others and this motivated them in their learning. This is where I feel the three participants that showed a negative response in their

achievement were let down. Due to such low reading skills and other literacy difficulties they did not have the ability to work as a group without teacher support nor did they want to and in line with the aforementioned research I don't think that you can make someone learn something when they are unwilling. Consequently, when working with pupils with significant barriers the strategies needed for these pupils are likely to require a larger amount of teacher support and guidance before that move to collaborative activities.

Scope for Further Work
Further research could look into whether a different structure of the groups may have helped these pupils. For example they may have responded to a more able pupil guiding the group, but if this approach was used it would have to be ensured that the progress of the more able pupil was not restricted as a result. Also an enquiry could be carried out when working with these pupils to see if increases in teacher contact time in small groups when teaching literacy strategies (e.g. teacher pupil ration 1:4) would lead to an increase in achievements.

Dissemination of Findings
The results of this enquiry were shared with the colleagues in both of my placement schools and the other trainee PE teachers on my course. Colleagues also asked for the resources that I used and have continued to use the writing frame when teaching pupils how to structure writing in continuous prose.

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Appendix

Raw Data collection

Participant	Reading Age	Pre Intervention Results (marks)			Post Intervention Results (marks)			Difference
	A – in line with chronological age L – lower than chronological age LL – significantly lower than chronological age (≥2 years)	Q1 (/8)	Q2 (/8)	Total (/16)	Q1 (/8)	Q2 (/8)	Total (/16)	
1	A	1	2	3	7	5	12	9
2	A	2	2	4	6	2	8	4
3	L	1	2	3	4	4	8	5
4	LL	0	0	0	-	-	-	-
5	L	0	0	0	4	2	6	6
6	A	0	0	0	5	1	6	6
7	A	0	0	0	6	2	8	8
8	L	0	2	2	6	0	6	4
9	L	0	1	1	-	-	-	-
10	LL	0	2	2	1	0	1	-2
11	L	0	2	2	7	2	9	7
12	A	0	1	1	5	3	8	7
13	L	3	0	3	5	1	6	3
14	LL	5	2	7	2	5	7	0
15	L	2	2	4	4	2	6	2
16	A	2	2	4	4	3	7	3
17	A	0	1	1	7	4	11	10
18	A	6	2	8	5	4	9	1
19	L	4	1	5	4	4	8	3
20	A	2	0	2	-	-	-	-
21	A	4	4	8	7	4	11	3
22	LL	4	4	8	2	0	2	-6