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An evaluative case study on the effect of the reading ages and attitudes towards reading of Year 8 pupils by introducing an explicit reading instruction model.

Abstract:

This research investigated the effect on reading ages and attitudes towards reading of fifteen Year 8 pupils by introducing an explicit reading instruction model. The project took place in School X, with the purpose of understanding the impact that a reading intervention programme can have upon participants' reading age and enjoyment of reading.

The rationale for this focus is as follows:

- Located in an area of high social deprivation, 90% of pupils enter School X with a reading age of 8 months or more below their chronological age. Therefore, raising the reading ages of KS3 pupils is an ongoing school priority.
- Y7 pupils receive more targeted reading intervention due to the curriculum design. The English teachers in School X need to implement a robust intervention programme in Year 8 to ensure reading progress is maintained.
- The introduction of the LNF, National Tests and the new GCSE's mean that reading is paramount to academic success.
- Previous studies have shown a positive correlation between reading enjoyment and reading ability.

This research project increased the amount of direct reading instruction that pupils received over a six week period. Most participants had increased their reading age by 3 months or over by the end of the project. All participants indicated an increased engagement in and enjoyment of reading. The end of year reading ages of all participants, recorded after the research, demonstrated a continuing upward trend. This report will contribute to the School Improvement Plan of School X. The reading instruction model will be refined and implemented in all Year 8 classes in 2018 – 2019.

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1.Introduction:

This small-scale research project aims to explore effective reading intervention at Key Stage Three. The case study involved the teaching of a six week reading intervention programme to 15 Year 8 learners. This bespoke programme was designed by amalgamating the research, training and experiences of the English Department at School X. It was trialed with a mixed-ability class of pupils during their time-tabled English lessons. This research aims to understand the impact that a reading intervention programme can have upon participants' reading age and enjoyment of reading. In relation to the context of School X, this report will also comment on the relevance of employing such intervention programmes throughout the Key Stage to help tackle GCSE English performance and on a wider level, educational inequality due to the school's location in an area of multiple deprivation. This study will provide feedback to leaders in School X regarding the impact of this programme on literacy levels, a key school and national priority.

2.Literature Review:

2.1 National Context:

The National Literacy Trust estimates that there are six million adults in the United Kingdom who are functionally illiterate (Jama and Dugdale, 2010). Studies have repeatedly highlighted that such individuals have lower earnings (Macey, 2015), poorer physical and mental health (Morrisroe, 2015), poorer housing (Coley, 2013), lower life expectancy (Clark et al, 2018) and a higher rate of incarceration (Herkner et al, 2009, SEU, 2012). The work of The Sutton Trust and the Joseph Rowntree Association have also shown the link between poor reading skills and a lower socio-economic background (Jerrim, 2017). Many researchers believe that this ensures

that the ‘Matthew Effect,’ is perpetuated, ‘the word rich get richer while the word poor get poorer’ (Rigney, 2010) and that this directly affects individual life choices such as friendship groups and subsequent connections (Myhill and Fisher, 2005), the ability to gain further qualifications as well as the likelihood of attending University or its level of prestige (Hirsch, 1999). Whilst there are other factors that may impede the academic progress of children from low socio-economic backgrounds and this one facet should not be viewed in isolation, research has shown that illiteracy and poverty are inextricably linked and become self-perpetuating unless effective intervention is introduced.

The Welsh Government (2014) made it clear that improving numeracy, literacy and reducing the impact of poverty on attainment were its educational priorities. This was in response to Estyn’s Annual Report 2012 - 2013 which stated, ‘The key to achieving full access to the curriculum lies in the standards of pupils’ literacy. To have a chance of achieving well – however privileged or underprivileged their background – pupils must be able to read and to understand what they are reading...’ Reaffirming this idea, the National Literacy and Numeracy Framework (LNF) was introduced (2012) and skills including reading were deemed, ‘... essential in order for young people to reach their potential whether they are planning to enter further or higher education or employment.’ This was closely followed by the introduction of the National Tests (2014) and new GCSE’s (2015) where a ‘greater assurance of literacy skills’ became a cross-curricular requirement. Reading had been placed at the heart of the government’s agenda and the idea that ‘every teacher is a teacher of literacy’ has been championed across schools in the UK. However, British secondary school teachers had received very little training in this complex area and may also lack the confidence in their own ability to deliver reading instruction effectively (Murphy, 2018, Lemov, 2016 and Didau, 2014). Coupled with this, as pupils progress through school, the extent to which skillful

reading is required to access the curriculum increases. As Murphy states, ‘students progress through school with very few demands to read, but miss out on the very thing, that they need to practice the most,’ (Murphy, 25). Furthermore, Didau points out that, ‘reading difficulties are endemic, and the only chance for the vast majority of children who struggle with reading is for someone to teach them what they need to know’ (Didau, 2014). There is, therefore, a need for research into effective reading intervention for older pupils (Kamil et al, 2008) especially in a British context as many previous studies have taken place within different education systems, notably New Zealand, Australia and the USA.

2.2 Reading: The Big Picture

Disputes over effective reading instruction have been prevalent for centuries. Seminal works include, ‘Why Johnny Can’t Read,’ (Flesch, 1955) which argued for a return to phonics based teaching as opposed to the favoured whole-word learning (look and say) of the time. In 1967, Chall published ‘Learning to read: The Great Debate’ in an attempt to settle the debate amongst educators over these opposing methods. From this followed four decades of a ‘whole language’ approach as propounded by Goodman and Smith (1972). This emphasised putting text meaning first. However, the research of Stanovich et al (1981) discredited this approach and ever since, there has been a ‘competing emphases to beginning reading’ (Hempenstall, 2017) with alternate advice for teachers from both sides of the argument.

Much research has focused on the science behind reading. Areas such as how reading links to cognitive process, neural pathways and neurobiological investigations (Flood, 1984, Ferrer et al, 2007 and Ashkenazi et al, 2013) have contributed to improving reading performance for those with disabilities. Similarly, many researchers have studied reading and dyslexia often

showing that those with dyslexia require more training in phonologic awareness (Shaywitz, 1998 and Elliot, 2010). Effective pedagogy for different aspects of reading have been explored including; comprehension (Willingham, 2006/07), decoding (Beck, 2013) McKeown et al, 2013), sight word reading (Seidenberg, 2017), learning fluency (Binder et al, 2002), spelling (Moats, 2005/06) and orthographics (Ehri, 2014 and Taylor et al, 2017). A common factor amongst many of these studies is the repetition of the spoken word and the use of ‘explicit, direct, instruction’ in order to yield the most profitable gains. Socially, studies have linked poor reading skills both a cause and effect of poverty (Stanovich, 1986) and poor behavior (Adams et al, 1999) and therefore, studies of reading should also closely consider the context.

2.3 Reading Intervention:

Whilst there is comparatively little reading intervention research involving secondary school aged participants in the UK, we can consider the best practice from different demographics. From early years research, we learn, the acquisition of early language is related to reading ability (Cunningham and Stanovich, 1997; Scarborough and Newman, 2009) as well as home factors such as exposure to reading, parental involvement and reading time at home (Formby, 2015). From primary school research, we can learn that reading instruction is effective when it is self-regulated by the pupils (Zimmerman, 1998), that it is not linked to hereditary IQ (Stuebing, 2009) and that there is a link between effective spelling instruction and reading instruction (Moats, 2005 / 06). From adult reading acquisition studies, we can learn that perseverance is key, that types of text are important (Perfetti, 1994) and that collaborative learning is often effective (Matthews, 1973). Of the reading intervention studies that have been conducted with older pupils researchers note, ‘...secondary students may experience improved reading outcomes when provided explicit reading intervention with adequate

time and intensity for reading instruction (Archer et al., 2003; Torgesen et al., 2001 cited in Murphy, 2018, p.57). Applying ‘Additive modality’ appears to be the prevalent instruction method, ‘... reading is hierarchical and that automaticity of lower level skills (decoding, spelling) allows cognitive efforts to then be allocated to attaining higher level skills (fluency, comprehension; LaBerge and Samuels, 1974; Reynolds, 2000, Samuels and Kamil, 1984). The intervention method applied in this study heeds the advice from previous research in so much that it is phonics based and considers both spelling and word etymology. Participants will be provided with reading home-work and the text types will be chosen carefully as age and word level appropriate. An example lesson outline is provided in **Appendix A**.

2.4 Reading Enjoyment

It is well established that reading enjoyment is closely connected to reading proficiency in general (e.g. OECD, 2010; Twist, Schagen and Hodgson, 2007; Blunsdon et al., 2003) as well as to specific components of reading proficiency, such as vocabulary development (Sullivan and Brown, 2015) and text comprehension and grammar (Cox and Guthrie, 2001). Furthermore, reading for enjoyment has been related to proficiency in other subjects (Sullivan and Brown, 2015) and learning in general (OECD, 2011). Based on such research, The National Literacy Trust conduct a large scale Annual Survey to examine the links between reading enjoyment and reading ability. Their Annual Report (2016) states that; ‘evidence is now accumulating that shows that reading enjoyment is beneficial not only for reading outcomes but also for wider learning’ (Clark and Teravainen, 2017). It is, therefore, important that secondary school teachers consider this area when approaching reading intervention.

3.Action Research:

3.1: Action Research in Schools

Action research can be defined as a cycle of identifying a problem, data collection, reflection and analysis, followed by problem redefinition (Johnson, 1993). In the field of education, it is focused on improving curriculum and teaching and learning (Kemmis and McTaggart, 1982) generating new theory (McNiff and Whitehead, 2005) and to explore issues, shape policy and improve practice (Newby, 2010). Johnson (1993) argues that conducting action research in schools promotes professional dialogue hence creating a professional culture in schools as it can assist in self-evaluation.

The field of education is moving towards more research-driven practice. Developing research engaged schools is central to improving schools and developing skilled teachers. It provides the research field with a detailed picture of education and ensures school strategy focuses on impact not just action. BERA (2014) use the term ‘research-rich’ to refer to environments where research is held central and enquiry-based practice drives change. It also highlights the importance of teachers being ‘research literate’ and engaged in carrying out their own research projects. Lewis & Munn (2007) highlight the importance of teacher-led research to reflect the true picture of a school as opposed to relying on instinct, leading to well informed decisions. In the 21st Century, there has been a change of purpose regarding educational research from investigating teacher practices to examining student outcomes (Lenski: cited in Lassonade and Israel, 2007). This has ensured that educational research has attained greater respectability (Verna and Mallick, 1999 cited in Burton and Bartlett, 2007).

Action research in schools can take many forms, as a teacher carrying out research this means research is ethnographic. UNESCO (2005) define this as ‘a description of events that occur within the life of a group’ often with participation from the researcher to understand interactions. Belanger (1992) also notes the similar characteristics of action research to case study methodology because the teacher-researcher is part of the research environment and project. Clough and Nutbrown (2007) explain that all social research is persuasive, purposive, positional and political (cited in Burton and Bartlett, 2007, p3-4) and therefore, it is impossible to dissociate the motives and context of the research in a social context. This is not necessarily a hinderance to research as long as the researcher is acutely aware of his / her position.

There have, however, been issues raised with teachers as researchers and the quality and relevance of educational research. The findings are often not accessed by teachers and if this does occur, this does not directly mean teaching practice is changed as a result (McNiff and Whitehead, 2005). Research must be transformed into practical teaching points and teachers must develop this habit over time. However, the recent increase in online articles, blogs and teacher magazines has improved access to this information, although it remains difficult to ensure that this research is of high-quality.

Hargreaves (1996) sparked debate when he suggested trainee teachers soon recognise the chasm between educational theory and practice. One of the main reasons for this hiatus is that practitioners desire answers and the structure of research means that findings are frequently non-conclusive. To combat this gap, McIntyre (2005) proposes knowledge-creating schools where teachers trial methods and disseminate findings. However, the access to this research and the application in alternative contexts requires further critical consideration.

By incorporating research into professional development teachers may become more research-literate. However, Tooley and Darby (1998) cast doubt upon the quality of this approach. They point out that teacher-researchers demonstrate political views that interfere with findings and that methodologies lacked rigour both with ethics and sample selection. Their study also raised doubt surrounding the efficacy of teachers as researchers and of this research taking place in a vacuum.

To thoroughly evaluate a school processes, researchers must view the school through a critical lens and being research-literate can improve the quality of this process. It is essential that schools collaborate with researchers to build capacity to conduct high-quality research; as suggested by BERA (2014) as collaboration enhances school improvement.

Over 20 years on from the concerns raised about educational research organisations such as; BERA, Estyn and the Welsh government have developed and disseminated good practice for Action Research in schools and a research-engaged culture is being cultivated in many Welsh schools. This action research aims to inform the School Improvement Plan of School X and findings will be inform the English Department's approach to reading.

3.2 Research Context

School X is an 11 – 16 mixed, inner-city comprehensive. The school serves an area where there are multiple social and economic disadvantages. In fact, 'almost two-thirds of the pupils live in the 20% most deprived areas in Wales' (ESTYN, 2012). School data consistently shows that pupils enter high school averaging a reading of eight months or more behind their chronological

age. Various measures have been put in place to remedy this, however, the school saw a drop in English GCSE attainment in 2017 (30% less A* - C grades than in 2016) due to the new skills required. Departmental evaluation highlighted the pupils' lack of reading skills as a barrier to success. It is imperative that School X develops a sustainable reading intervention programme to increase reading ability to further the academic attainment of its pupils in English and beyond.

3.3 Research Planning

This research has been planned systematically with careful consideration of the ethics of school-based research. The participants for this research project are a distinct Year 8 English class. They have been chosen as they are the class assigned to the researcher and although this will raise questions regarding researcher positioning, it will make the monitoring of the participants more robust and also eliminate the potential threat to reliability that may be caused by asking another to deliver the programme. There will be no control group in this research due to time and ethical constraints. It will be made clear to other pupils who ask that the reading intervention programme is a trial and if successful, all groups will be party to the strategies in the future. The study is small scale - 15 participants over a six week period. All participants will be provided with permission forms outlining the guidelines of this research and its dissemination. All participants will have the right to withdraw and suitable alternative provision will be arranged in this instance.

All data collected will be anonymised for data protection. Access to this data and collection of new data is within daily practice and accessed on encrypted school computers. The findings of this research activity will be disseminated with colleagues but will be anonymised and will follow the ethical guidelines at all times (**see Appendix B for research outline**).

4. Analysis

4.1 Methodology

This research is an evaluative case study using reading age data and questionnaires as its methodology. By using this triangulation, I aim to obtain both quantitative and qualitative data. Whilst these are conflicting epistemologies they both have value in this research activity. A mixed-method methodology approach provides increased accuracy in data collected and can produce a more detailed picture (Denscombe, 2008). Pupil attendance records will also be monitored to aid the validity of the data. The sample is both a ‘convenience sample’ as is usual for small-scale practitioner research and purposive (McBurney, 1997). The class is mixed ability making the sample as representative as possible. The data analysis will involve the comparison of reading ages and coding of the questionnaires in order to delineate points of commonality. An evaluative case study best suits the research question that did not aim to cover a whole population but to provide an in-depth picture of a particular area of the educational arena (Gay, 1995).

Quantitative research can be described as ‘explaining [of] phenomena by collecting numerical data that are analysed using mathematically based methods’ (Muijis, 2004). Although it is not without flaws, reading age is regarded as a measurable construct, therefore, quantitative data will be analysed to measure academic change and the impact of the intervention. Similarly, it will also be used partly in the questionnaires as a Likert scale will be applied and analysed. The use of quantitative data has been criticised for regarding human behaviour as, ‘passive,

determined and controlled... ignoring intention, individualism and freedom' (Cohen et al, 2011). This is a potential pitfall of this data collection method as internal or external factors could affect pupil performance in their reading tests.

Qualitative methods typically focus on interactions between individuals, social factors and the collection of evaluative information. This form of research will be drawn upon by the use of open ended questions in the questionnaire. Some, policy makers feel qualitative approaches fail to provide clear cut solutions (Brink, 1993) and that the results from small scale research shouldn't be generalised (Burton, 2008). However, these limitations are understood in evaluative case studies. To test the reliability of this research project it would need to be repeated in a school setting over a longer time span with a variety of different pupils to create a clearer picture.

It is important to be sensitive to the issues of reliability and validity of data collection. There are a variety of biases that can lead to unreliable evidence. Confirmation bias, for example, is the tendency to interpret findings in a way which supports prior beliefs. According to McNiff (2014), 'practice can be understood as trying to realise one's values and this involves periodically taking stock of what we believe in and how we think.' Throughout this research, I will need to be conscious of my position as teacher as researcher and the power imbalance caused by the relationship. I am aware that I am driven by a sense of 'social obligation' (McNiff, 2014) but it would be naive to think that my participants have the same view of the situation. Whilst I will be clear about the duality of my role, I can not be completely certain of the validity of the responses. For example, the participants may try to please or appease me. Likewise, my explanations or wording of questions could compromise my impartiality. For this reason, the sample may be too biased and too small to be generalizable. However, as all

educational research is ‘positioned’ (Burton, 2008) I believe I have to be satisfied with the fact that this research is presented as a case study and not an attempt to provide a categorical truth.

Sources of error have also been considered, the same locations, seating plans and silent conditions will be used for all questionnaires and STAR tests.

4.2 Reading Age Data

Methodology

Participants completed a computerised STAR test at the start and end of the research. As the school’s usual method, this removed unfamiliarity making it more of a fair test. A further advantage was that interaction with the researcher was limited increasing objectivity. Although, time constraints for this independent study meant that there was no control group, the school was also collecting the data of classes that had not been involved in the reading intervention programme and also had a history of reading data to compare the class with if the need for a more in-depth study was required.

It is worth remembering that the collection of reading age data can be problematic. A variety of tools are available and each yield slightly different results. In addition to this, the result could depend on the participant’s mindset on the day. A mistake or intentional false score could be generated. To minimise this, the rules and importance of the test were explained clearly.

Findings

The table below (**Fig: 1**) shows the participants’ reading ages at the start and end of the six week period.

Fig: 1

Participant	Reading Age - Start (yrs .mths)	Reading Age - End (yrs.mths)	Difference in mths
A (Male)	09.8	09.11	+3
B (Female)	11.5	11.9	+4
C (Male)	10.7	10.7	0
D (Male)	11.7	11.9	+2
E (Female)	09.8	10.1	+3
F (Male)	09.6	9.10	+4
G (Female)	10.8	10.11	+3
H (Female)	12.6	12.4	-2
I (Male)	07.6	8.0	+6
J (Male)	11.7	11.7	0
K (Male)	09.4	09.9	+5
L (Female)	12.9	13.0	+3
M (Female)	10.8	11.2	+4
N (Female)	11.8	12.0	+4
O (Female)	10.11	11.0	+1

Key:

	Increase in Reading Age
	No change in Reading Age
	Decrease in Reading Age

Data Analysis

80% of participants increased their reading age over the six week period by the mean average of 3 months (**see Appendix D, Fig 1**) for participant E as an average example. The reading ages of participants C and J remained the same. Participant C only attended 50% of the reading intervention lessons due to medical reasons. Whereas, a number of factors could have affected Participant J's result and when cross-referenced with the questionnaire (**see Appendix D, Fig:2**), Participant J expressed the most disengagement with reading and the project. Participant H's reading age decreased by two months, however, this small loss can be interpreted as a possible 'glitch' in the system as participants would only need to make a few minor mistakes for this to occur. For this reason, the school closely monitors the average reading age of pupils over time. Interestingly, Participant I's reading age was much lower than the other participants as an EAL pupil. The reading intervention model has improved this participant's reading age by six months showing that the intervention could work for a variety of learners (**see Appendix D, Fig: 3**). As the focus of the project was to raise reading levels this shows a positive impact.

These results could be further analysed by gender, EAL and eFSM as part of a larger study. It also should be noted that other factors that could also have contributed to these outcomes. For example, the quality of teaching, the wider school focus on reading, individual participant attitudes and other variables. Although this data is useful to analyse overall performance of the group it must not be wholly relied on as a direct result of this intervention.

4.3 Questionnaires

Methodology

Questionnaires are the most efficient way to collect the evidence, in the given time, with a group who were all in a specific location at a designated point. The purpose and items were explained and participants were able to seek clarification.

Questionnaire construction is notoriously tricky (Corbetta, 2003, Bell, 2005). A variety of questionnaires were evaluated to ensure an appropriate data-collection method. The purpose of the questionnaire was to measure a range of dispositions associated with reading and its enjoyment. The questions were based on the questions and findings of The National Literacy Trust's Annual Survey of Reading Enjoyment. The five 'I' statements at the start of the questionnaire were linked to the Annual Report's key findings. The first and fifth statement aimed to gauge reading enjoyment level. The second statement considered confidence as 'young people who enjoy reading also report higher perceptions of their own reading skill.' The third statement looked at reading frequency and the fourth statement considered participants' association of reading with achievement, 'children who enjoy reading are also more likely to be motivated to read by interest and achievement.' The open questions were also linked to previous studies. The question, 'Why do you read?' aimed to discover participants'

motivation – achievement or approval. The second, ‘How much of your own time do you spend reading and how often do you do this?’ was used to clarify the extent of leisure time reading to help validate statement three. The final question, ‘How could you improve your reading?’ aimed to help the researcher understand participants’ awareness and self-awareness of strategies for improvement. An additional comment box was placed at the end of the questionnaire to ensure that participants had the opportunity to impart any further information or to further clarify the previous information provided.

This semi-structured approach has been considered as the best for educational studies (Burton and Bartlett, 2009 and Bell, 2005) and it allowed room for participants to express themselves freely (BERA – 16). I ordered the questions from easiest to hardest and from closed to open, as recommended, to yield the best possible outcomes (Gay, 1995, Bartlett and Burton, 2009). This aimed to ensure that I collected the most significant information from any non-finishers. The scaled questions had the advantage of placing a lower ‘cognitive load’ (Sweller, 1988) on respondents which is more likely to lead to a higher response rate and more accurate data. This is also easier to code and analyse. A Likert scale (1932) was used for questions one to five. This had many advantages; it would demonstrate extent of agreement, it would avoid leading questions and it would ensure a clear set of dispositions were assessed. In addition to this, existing pupil voice surveys in School X currently use this format so it is familiar. The unstructured questions were used to produce further insight into the research questions.

Validity was considered throughout the questionnaires’ construction. For example, ‘emojis’ and simple vocabulary took the low literacy levels of the participants into account. Before the session, notes were prepared on how to help clarify questions to avoid compromising my objectivity. ‘I statements’ were used to increase the likelihood of honest responses. The questionnaires were short to retain interest and easy to return. The respondents were offered

extra time and it was made clear that they could hand in a blank copy if they wished. The questionnaires were anonymous but the researcher/teacher labelled each questionnaire with a letter to match the response to the STAR Test.

There are limitations of questionnaires. They sometimes provide limited data, provide no narrative to why the participant identified with a response and can leave room for interpretation such as with ‘neither agree or disagree’ responses. Krosnick (1991) uses the term ‘satisficing’ to describe this action of selecting the middle alternative to minimise cognitive costs. However, (O’Muirheartaigh et al, 2000 cited in McNiff, 2005) claim that to omit the middle option denies participants who genuinely identify with this from truthfully answering. For this reason, it was included (**see Appendix C**).

There are further weaknesses with my chosen methodology, respondents may not find it easy to place their responses into specific categories. Similarly, the short responses often fail to reflect the depth or complexity of feelings (Burton and Bartlett, 2009). This was counteracted by the placement of the ‘additional comments’ box. Whilst, I tried to copy the simple language of the Annual Survey of Reading Enjoyment, a pilot questionnaire should have been used to check if the questionnaire was pupil friendly particularly considering the low literacy levels and EAL background of specific participants. Lastly, as the questionnaire was repeated in a relatively short time scale, participants may have remembered their original answers and could have used this to influence responses.

Analysis of Findings

Clear changes can be tracked from the overall positive responses (Strongly Agree / Agree) from the closed questions as demonstrated below (**Fig: 2**):

Fig:2

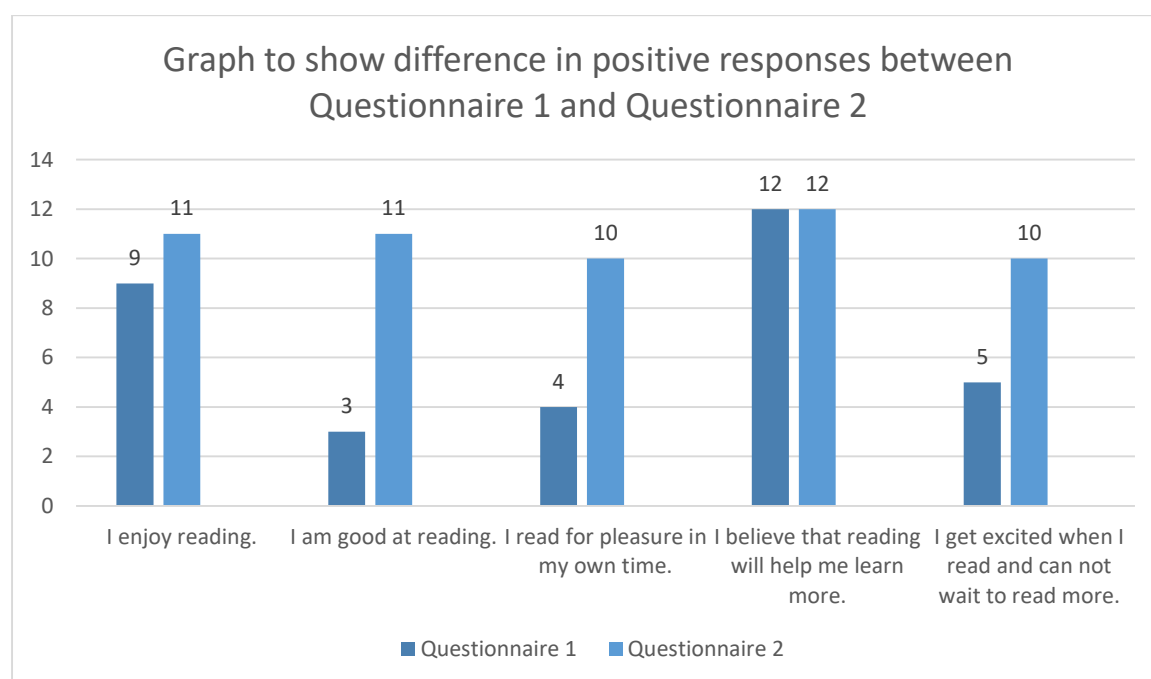


Fig: 2 (above) shows the change in positive responses from the participants. There is a notable change in reading confidence, frequency and enjoyment suggesting an upward trend in reading engagement. There was no numerical change in the amount of participants who linked reading to academic success, however, further analysis reveals that more participants had changed their response to ‘strongly agree’ for this question suggesting a positive outcome

After the reading intervention programme a higher level of participants stated that they enjoyed reading (**see Appendix E , Fig: 1**) . There is a 16% increase in participants identifying as

‘strongly agree’ and no participant marked ‘strongly disagree,’ which further shows a change in attitude. By cross-referencing the questionnaire responses with the reading age data, a positive correlation can be seen between increased enjoyment and increased reading age of the majority of participants.

Fig: 3

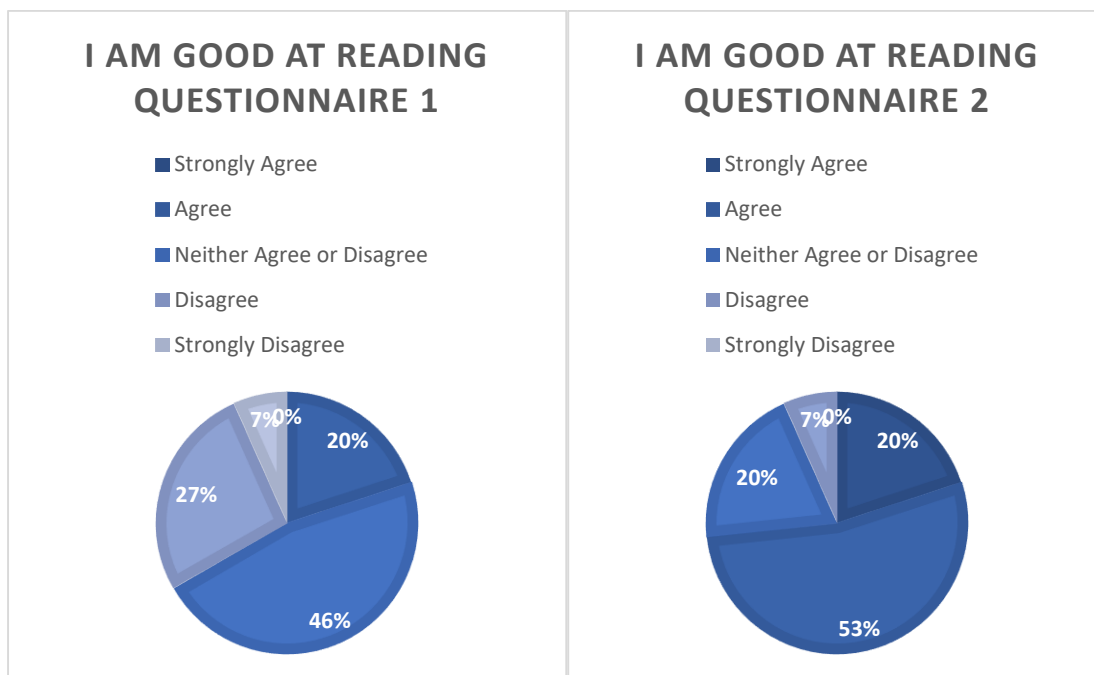


Fig: 3: After the intervention, a higher level of participants agreed that they were good at reading suggesting a shift in confidence. This is further suggested by the fact that, of the participants that had answered ‘neither agree or disagree,’ more had moved to ‘agree.’ This is also evident when cross-referencing the questionnaire responses with the reading age data, a positive correlation can be seen between increased confidence and increased reading ages.

After the reading intervention programme, there was a 40% increase in participants stating that they read for pleasure in their own time (**see Appendix E, Fig: 2**). The participants who had previously stated ‘neither agree or disagree’ had largely moved to agree suggesting the frequency of reading for pleasure had increased. When cross-referenced with the qualitative responses, however, this result needs to be treated with a degree of caution. The data does not prove that the participants were reading at home.

Fig: 4

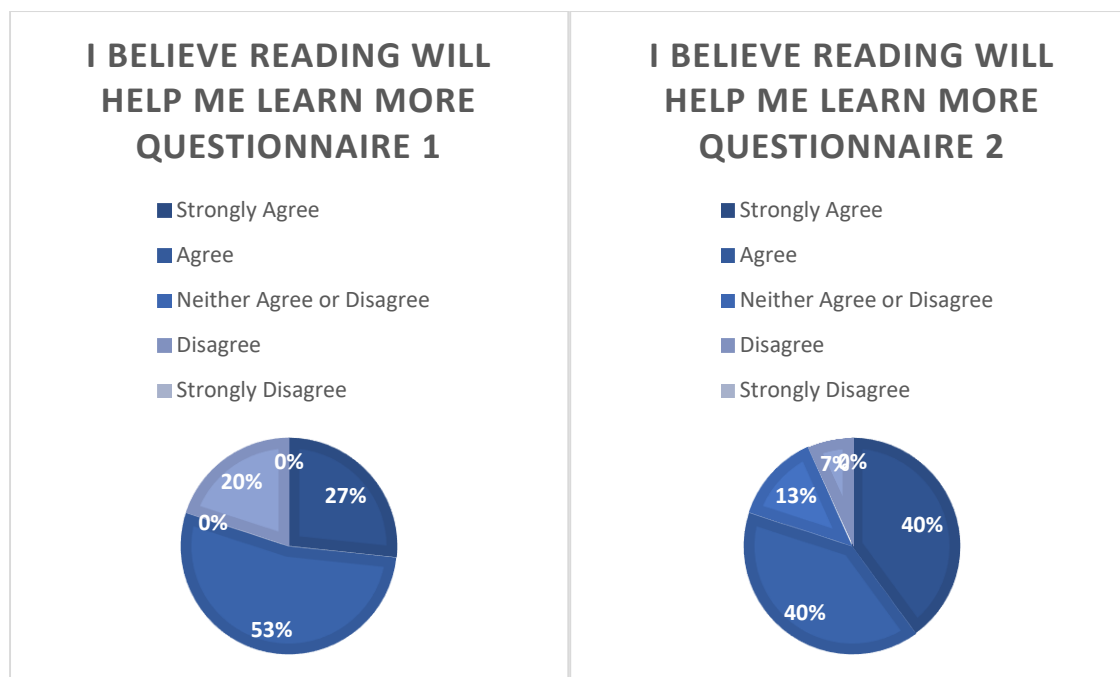


Fig: 4: The majority of participants believed that reading would help them learn more, even before the reading intervention programme. Indeed, the same amount of participants indicated a positive response at the end. However, more participants entered that they now ‘strongly agreed’ with this indicating that a further positive connection with reading and academic achievement. There was an upward shift in the negative responses here too, however, one participant remained with ‘disagree.’ Possible reasons for this are outlined below (**also see Appendix C, Fig:2**).

After the reading intervention programme, 32% more of participants stated that they were excited to read and could not wait to read more, most moving from ‘neither agree or disagree’ to ‘agree,’ suggesting a positive trend in enjoyment. This backs up the findings from question one. By cross-referencing the questionnaire responses with the reading age data, we can see a

positive correlation between this question and increased reading ages further supporting the theory that increased enjoyment of reading impact on reading ability.

Qualitative Responses:

Coding was used to delineate the common strands from the qualitative responses:

Fig: 5

Why do you read?	Frequency Questionnaire 1	Frequency Questionnaire 2
Achievement	**	*****
Approval	*****	*****
No response / Not Applicable	*****	***

Fig: 5: Before the reading intervention most participants provided answers that indicated that they were reading for approval as opposed to achievement. This trend reversed after the programme indicating that the programme had a positive impact on the participants' intrinsic motivation to improve.

There was an increase in the frequency of reading. The markers were decided as the school's homework policy is to read for 20 minutes every night. However, on reflection, the wording of this question is problematic and it was difficult to code. This question would be more effective if it was multiple choice if the study was repeated (**Appendix E**).

Before the intervention most participants provided answers that indicated that they knew they had to increase their frequency / practice to improve. However, this increased further during questionnaire 2 suggesting that the programme had a positive impact on motivation (**see Appendix E**).

Triangulation:

Appendix D shows the graphs indicating the change in questionnaire responses for three participants as examples of the cross referencing between the data.

Participant E (**see Appendix D, Fig:1**) represents the average findings in the study. Participant E had a reading age of 9.8 years at the start of the intervention programme and a reading age of 10.1 years by the end. Participant E's questionnaire responses also demonstrated an upward trend in the majority of aspects of reading enjoyment.

Participant J had a reading age of 11.7 years at the start of the intervention programme and remained at a reading age of 11.7 years by the end. Participant J's questionnaire responses (**see Appendix D, Fig:2**) demonstrated lack of engagement with reading throughout the programme. This could be attributed to wider social factors. However, it reinforces the notion that engagement is necessary for reading age improvement.

Participant I had a reading age of 7.6 years at the start of the intervention programme and achieved a reading age of 8.0 years by the end. Participant I's reading age was much lower than the other participants at the start of the research due to a recent move to the school from another country and was, therefore, new to English. The questionnaire's responses (**see Appendix D, Fig:3**) show greater reading enjoyment during the course of the intervention. This could be attributed to more familiarity with the language from the intervention. However, other possible

factors should also be taken into consideration such as language immersion outside of the classroom as well as other social factors.

If this research was repeated on a larger scale, it would be interesting to closely analyse the reading age data and questionnaire responses of more participants to further validate the findings.

Critical Evaluation:

This small-scale research project showed that the reading intervention programme increased pupil reading age and enjoyment in reading as measured by similar indicators to the National Literacy Trust. The majority of participants indicated a greater enjoyment of reading, a developed confidence with their ability to read and more frequency of reading for pleasure.

However, these results should be approached with a degree of caution. Firstly, the study is specific to a context and is small scale. Secondly, the increase in reading ages could also be attributed to the schools' literacy drive or other variables and may not be purely due to the intervention programme. Thirdly, researcher positioning and participants' desire to please may have skewed the findings. Many of the participants' reading ages remained below their chronological expectations suggesting that aspects of the intervention should possibly become classroom practice and applied over a sustained period of time to ensure maximum impact.

There are further criticisms of the questionnaire. Mindset on the day of the survey can play a part in the agreement with a statement. Furthermore, the vocabulary and phrasing in questionnaires needs careful consideration. For example, 'I am good at reading' could be considered too subjective. The phrasing of, 'I believe reading will help me learn more' and 'I

get excited when I read and can't wait to read more' could be considered clumsy and in need of further room for the participants to elaborate. The qualitative responses were difficult to codify and as mentioned above, if repeated, multiple choice questions would be added to the questionnaire to make it more participant and researcher friendly.

Furthermore, there were constraints on the outcomes and effects of this research. Firstly, there was limited time in which to complete it. Secondly, the absence of a control group means that it is difficult to validate the data. This should be put in place if the research was to be repeated. Similarly, the use of a focus group meant other pupils in school did not experience the project, however the positive outcomes will be disseminated for future use in the school. If this research was repeated, pupil evaluations should also be used to help gauge the impact of the programme directly. On reflection, this study should have been more small scale and focused, looking at one aspect of reading enjoyment rather than multiple strands.

Discussion of Findings:

Although conducted on a small-scale, my research findings match a number of other studies. Reading age gains can take place over relatively short periods of time if an appropriate intervention strategy is employed (Clark and Cunningham, 2016). According to Ofsted (2014), 'negative attitudes [towards reading] can frequently be reversed by intervention programmes that help to improve skills and change pupils' views of themselves as readers, thereby motivating them to persevere and improve.' Research has repeatedly found that positive reading attitudes are linked to achievement (McKenna and Kear, 1990). More specifically, studies have repeatedly shown that lower-attaining pupils hold more negative attitudes towards

reading (Twist et al., 2007; Sturman and Twist, 2005). This is reflected in the difference between the first and second questionnaire responses. Although, this study is small-scale and the aspects of the research and teaching model need to be reviewed, it is clear that the intervention process had a positive impact on the majority of the participants. This is important as research has shown that ‘effective methods to encourage young people to read for enjoyment are paramount to success.’

The reading intervention model was successful in raising reading ages and subsequently the enjoyment of reading. The mixed-method teaching model for the mixed-ability class appears successful reflecting Murphy’s notion of the ‘hierarchies of skills’ (2018) that pupils need in order to become confident readers. The study reinforces the use of the pedagogical principles of ‘explicit, direct, instruction’ (Englemann, 1983) and retrieval practice as successful teaching strategies for reading. However, this is not intended to devalue the other methods of instruction that were not trialled here.

According to Clark and Cunningham, ‘reading enjoyment has a strong bidirectional link with reading attainment, indicating that reading enjoyment both predicts and is predicted by reading attainment’ (2015). This is reflected in this research which found that increased reading ability went hand in hand with increased enjoyment, confidence and frequency of reading for pleasure. These findings match the conclusions of the National Literacy Trust’s Annual Report (2017) which states, ‘pupils with higher reading enjoyment, higher reading frequency, longer reading duration and more positive reading attitudes are expected to have higher reading scores, after all other variables are controlled.’ However, it should be taken into account that there may be a bias in the reports commissioned by this organisation.

Even before the intervention, most pupils equated reading with academic success. However, this attitude was intensified by the end of the study. Similarly, at the start of the study, participants were mostly reading for approval as opposed to achievement. This trend had reversed among participants after the programme. Research has also found this to be the case (Clark, 2015). Most participants indicated that they knew that they should increase their practice to improve. This is contrary to some studies which suggest that children do not know how to improve (Ehri, 2014) but similar to those who equate socialisation factors with lack of reading skills.

Conclusions drawn from this study, need to be considered with a degree of caution, however, as Moats points out, there are ‘a number of conceptual and methodological issues that should be considered when conducting and interpreting reading intervention research’ (2005). For example, the intervention model is not a recognised format and ‘reading age’ is difficult to measure in itself. There are also many variables which could have affected participant reading age including ‘home environment and parental involvement’ as found by Clark and Hawkins (2010) and family, peer and school influences as found by Akerman et al (2008). Alongside this other studies have isolated gender, EAL and eFSM alone and considered their effect on reading age in their own right. It is therefore, important to view these findings in context.

6. Conclusion

6.1 Overall impact on self, participants, school, wider educational audience

A key aim of this research project was to see if reading intervention can positively impact on secondary school aged pupils. It is clear this cannot simply be achieved in six weeks. School X have a long-term commitment to raising the reading ages of the pupils and the use of the

model here will be adapted with the aim of increasing reading ages and engagement in the long term. Very recently, Murphy stated, ‘...if we intervene effectively by changing the teaching, [pupils] can become competent readers’ (2018). This study reflects this idea.

This research project had an impact on the experiences of the participants involved and the data shows progress in reading age linked to the increased enjoyment in reading. This research is key to my own development as a teacher-researcher. The consideration of using mixed-method data collection challenged me to thoroughly assess impact on pupils and for school results. The research developed my understanding of measuring impact which will contribute to the organisation of further interventions and research at School X. In addition, the insight gained concerning reading intervention and enjoyment of reading will inform my practice in the future. The research project will have a positive impact on the provision of reading intervention at School X. The findings will be shared with leaders in the school and recommendations have been made to inform the School Improvement Plan.

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Appendices:**A: Lesson Outline****B: Research Outline****C: Questionnaires****D: Cross – Referencing****E: Further Questionnaire Analysis****Appendix A:**

Example Reading Intervention Lesson Outline:

Activity	Time
Phonics Re-cap using Engelmann's pronunciation guide.	10 minutes
Explicit direct instruction – etymology and spelling of key words from the text to be studied using Didau's 'Secret Literacy'	15 minutes
Whole Class collaborative reading of text and discussion using Lemov's ideas in 'Reading Reconsidered.'	15 minutes
Recap and retrieval	5 minutes
Home-work	Reading for pleasure (teacher preferred text)

Appendix B:

The following table outlines the time-scale of the project:

Time	Action	Contextual Factors
Weeks 1 – 4	Literature Review. Explain project to class and distribute parental permission forms for pupil involvement in the project. Arrange for alternative provision in case of participant withdrawal.	
Week 5	STAR Test for reading age and completion of initial questionnaire.	
Week 6 – 12	Two reading intervention lessons a week during time-tabled English lessons.	Closely monitor attendance for reliability.
Week 12	STAR Test for reading age and completion of final questionnaire.	Ensure the same conditions as first STAR Test and initial questionnaire.
Week 13 – 16	Compile data and write up research.	
Week 17 – 18	Dissemination of findings to colleagues and de-brief with participants.	

Appendix C:

Reading Questionnaire

Please read the statements below and put a tick next to the answer which best fits your views. Only tick one box for each statement.

This is not a test and there are no right or wrong answers. The feedback will be used for us to improve English lessons and the quality of our teaching and learning.

Year Group:

Class Name:

Male or Female:

Date:

Question	Strongly Agree 	Agree 	Neither Agree or Disagree 	Disagree 	Strongly Disagree 
I enjoy reading.					
I am good at reading.					
I read for pleasure in my own time.					
I believe reading will help me learn more.					
I get excited when I read and can not wait to read more.					
Why do you read?					
How much of your own time do you spend reading and how often do you do this?					
How could you improve your reading?					

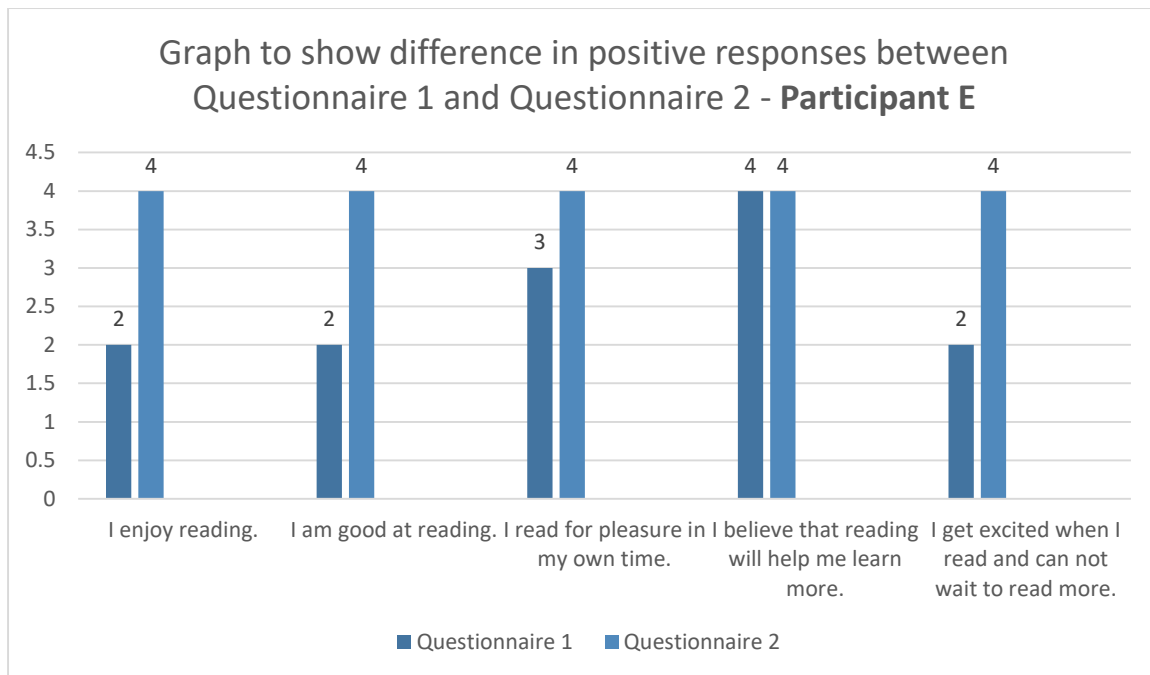
Any other comments you would like to make about reading:

Thank you for taking the time to complete this questionnaire.

Appendix D:

The graph below (Fig: 1) represents the **average** findings in the study. Participant E had a reading age of 9.8 years at the start of the intervention programme and a reading age of 10.1 years by the end of the six weeks. Participant E's questionnaire responses also demonstrated an upward trend in reading enjoyment.

Fig: 1

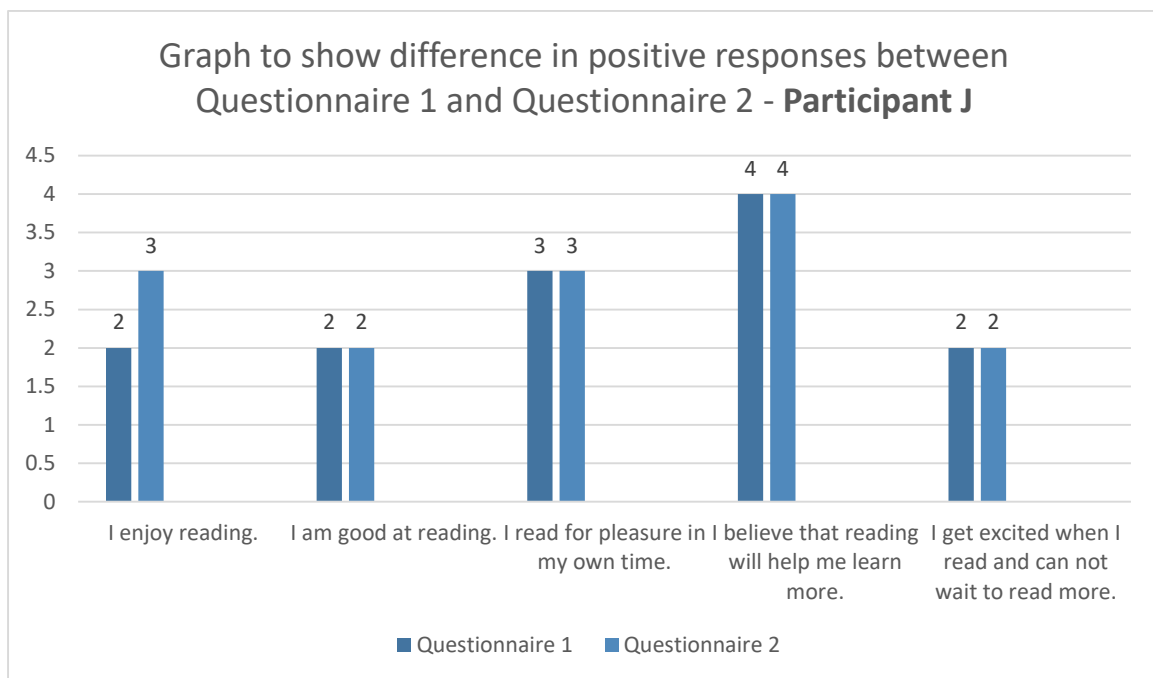


Key:

5	Strongly Agree
4	Agree
3	Neither Agree or Disagree
2	Disagree
1	Strongly Disagree

The graph below (**Fig: 2**) shows the responses of Participant J who had a reading age of 11.7 years at the start of the intervention programme and remained at a reading age of 11.7 years by the end of the six weeks. Participant J's questionnaire responses demonstrated his lack of engagement with reading.

Fig 2:

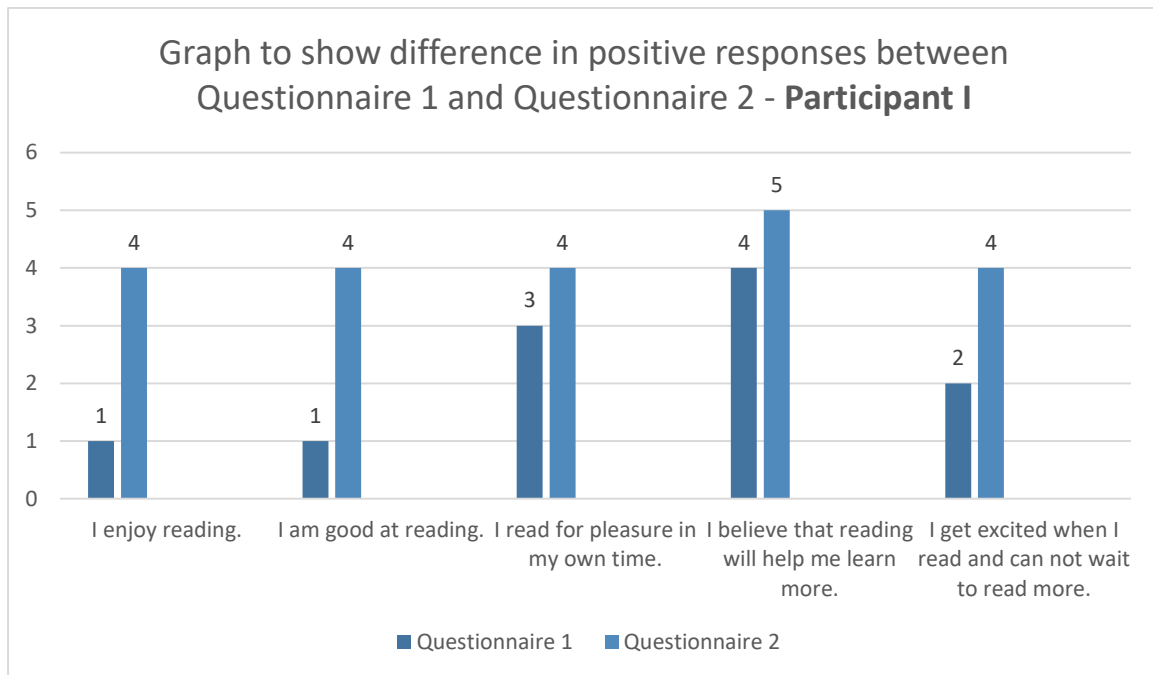


Key:

5	Strongly Agree
4	Agree
3	Neither Agree or Disagree
2	Disagree
1	Strongly Disagree

The graph below (**Fig: 3**) shows the responses of Participant I who had a reading age of 7.6 years at the start of the intervention programme and remained at a reading age of 8.0 years by the end of the six weeks. Participant I's reading age was much lower than the other participants at the start of the research due to a recent move to the school from another country and was, therefore, new to English. The questionnaire's responses show greater reading enjoyment during the course of the intervention. This could be attributed to more familiarity with the language. However, other possible factors should also be taken into consideration such as language immersion etc.

Fig: 3



Key:

5	Strongly Agree
4	Agree
3	Neither Agree or Disagree
2	Disagree
1	Strongly Disagree

Appendix E

Fig 1:

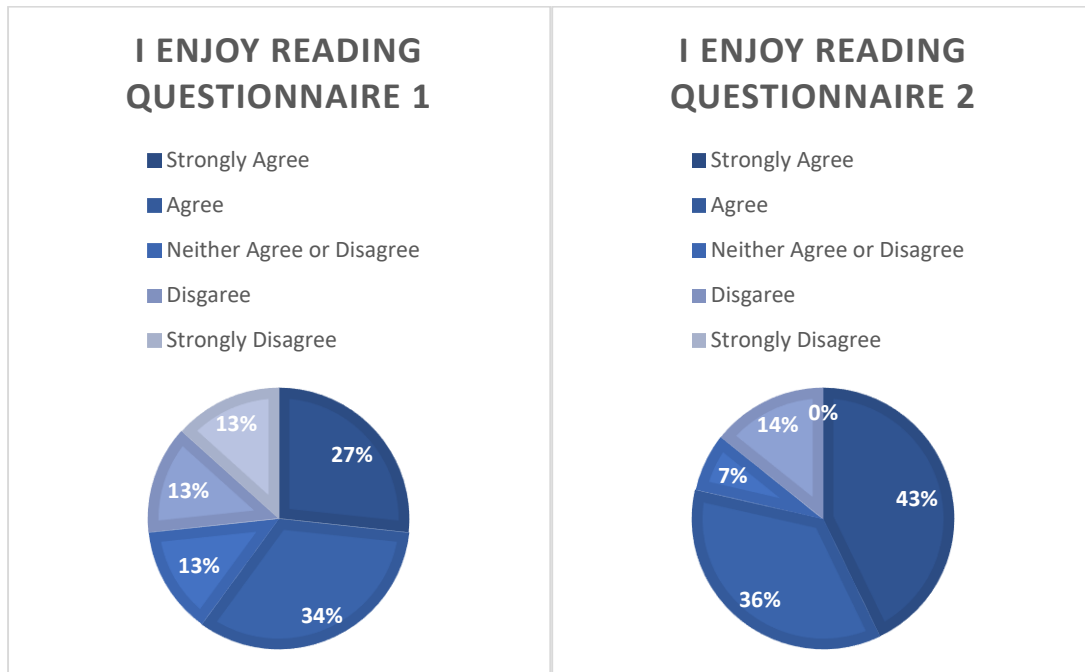


Fig 2:

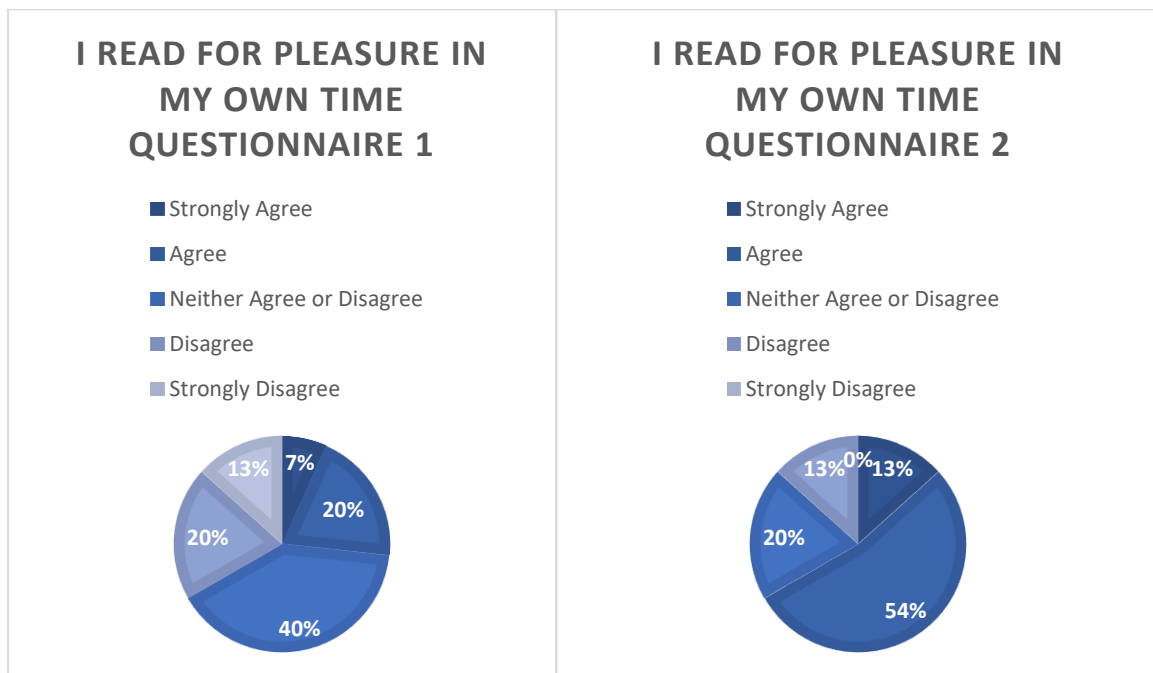


Fig 3:

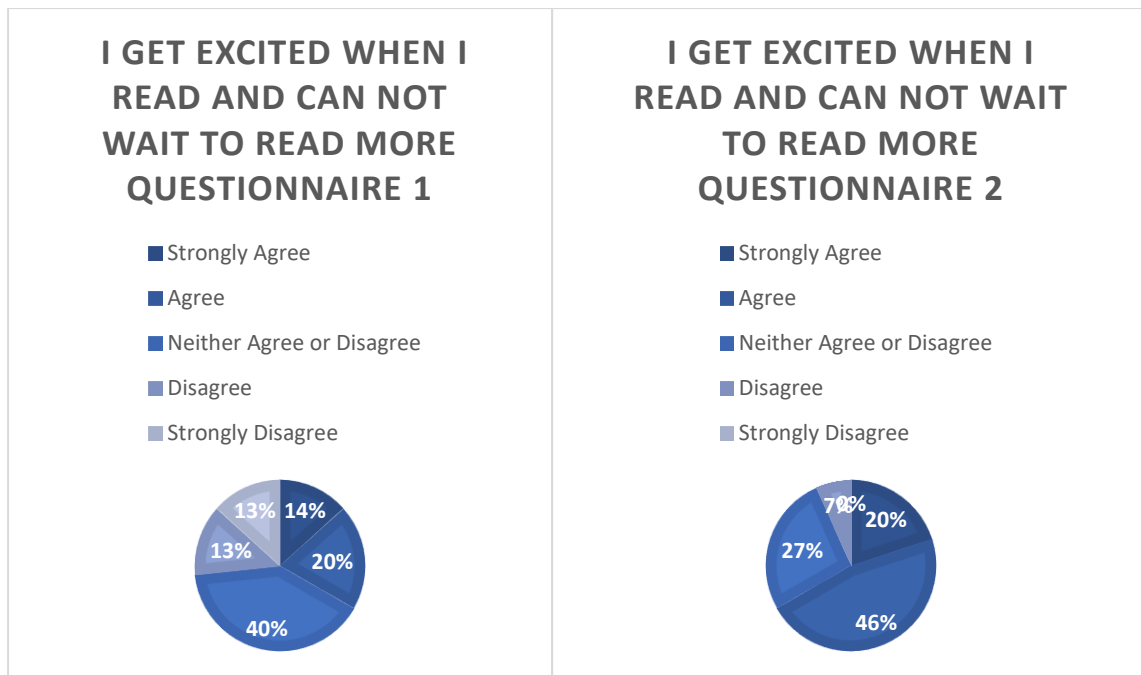


Fig 4:

How much of your own time do you spend reading and how often?	Frequency Questionnaire 1	Frequency Questionnaire 2
Daily for more than 20 minutes	*	**
Three times a week for more than 20 minutes	***	*****
Not at all	****	*
No response / Not Applicable	*****	*****

Fig 5:

How could you improve your reading?	Frequency Questionnaire 1	Frequency Questionnaire 2
Read more often / practice	*****	*****
Read more difficult texts	***	****
No response / Not Applicable	*****	****