UNIVERSITY of GREENWICH

ACTION RESEARCH PROJECTS
2015-2016

TEACHERS' REPORTS

RGTSA
Royal Greenwich Teaching School Alliance

University of Greenwich
Royal Greenwich Teaching School Alliance

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FOREWORD

ROYAL GREENWICH TEACHING SCHOOL ALLIANCE: ACTION RESEARCH PROJECTS

John Camp

As we transform and reshape the manner in which schools enable teachers to continue to learn, practitioner research occupies an increasingly central place in the culture of the school. By engaging with the theories and ideas of academics, schools can better understand the effectiveness of all that they do and feel a greater sense of empowerment as they reform pedagogy and grasp the mantle of professional knowledge creation.

The Royal Greenwich Teaching School Alliance is committed to sponsoring practitioner research across the authority so that our collective professional capital is enhanced through the investigation and exploration of genuine questions that are centred on effective pedagogy and learning. The Alliance is focused on bringing the very best national and international speakers into Greenwich to facilitate debate and engagement of highest standard whilst, at the same time, nurturing home-grown researchers who contribute to the growing body of knowledge that enables the profession to sustain itself.

Every teacher is a researcher. We are committed to supporting them in sharing their understanding with the wider professional community for the benefit of all learners.

John Camp
Executive Headteacher
RGTSA

FOREWORD

ROYAL GREENWICH TEACHING SCHOOL ALLIANCE: Research & Development

Jon Curtis-Brignell

At a time when many in education are keen to emphasise that which divides us, there is in many contexts a perceived and growing distance between classroom teaching and academia. Research and development within the RGTSA, by contrast, is built on our rich collaboration with the University of Greenwich, which provides expert challenge for teacher-researchers as they strive to improve their practice.

This process of collaborative enquiry and structured peer support allows teachers in Greenwich to analyse and reflect on educational theory and research evidence in order to explore and challenge their own beliefs and assumptions, to explicitly discuss how to translate new ideas within their practice, and to implement what they have learned by experimenting in the classroom.

This opportunity to explore why things do and don't 'work', informed by specialist advisers and external expertise, is without doubt a most powerful form of teacher development.

Jon Curtis-Brignell
Research & Development Lead
RGTSA

FOREWORD

ROYAL GREENWICH TEACHING SCHOOL ALLIANCE: ACTION RESEARCH PROJECTS 2015/16

Professor Andrew Lambirth

This year, with my colleague, Dr Ana Cabral from the University of Greenwich I have had the privilege of working with a group of talented teachers and a Learning Support Assistant (LSA) from schools within the Alliance who were all interested to study their own practice in order to enrich the learning of the children they teach.

Ana and I wanted to introduce the group to action research. The classic work by Carr and Kemmis (1986) describe action research as being about:
• the improvement of practice;
• the improvement of the understanding of practice;
• the improvement of the situation in which the practice takes place.
It was important to us that the teachers and LSAs were as systematic as possible about the way they undertook their investigations. Teachers and LSAs are busy people and the degree to which they applied the methodology varied. The group consisted of those from a range of academic backgrounds and experiences. We discussed their aims – constructing research questions or identifying the problem they wished to solve. We introduced literature that was relevant to the focus of their study. We worked on the best ways of collecting data to inform their actions and we talked about the ethical issues of being an 'insider-researcher' and how to address them.

Action Research Process (Creswell, 2012)

Identify a problem to study
Locate resources to help address the problem
Identify information you will need: plan a strategy for gathering data. Decide from whom you need to gather the data. Consider ethical implications.
Analyse the data
Develop a plan for action
Implement the plan and reflect
Identify new focus

We met with the group at least three times during a term and on a number of occasions we went to schools or had telephones conversations when teachers were too busy to attend. The meetings with the teachers and LSAs were fascinating. The combination of staff from secondary and primary led to exciting and fruitful professional conversations. Everyone recognised how pedagogy associated with each phase challenged and enriched the other. In some cases, the teachers invited each other into their classes and team teaching took place as a result, bringing forth further rich professional discussions. Research has informed us that the most effective forms of continuing professional development (CPD) (BERA/RSA 2014) involve:
• the use of specialist advisors and external experts
• collaborative enquiry and structured peer support
• the opportunity to explore why things do and don't 'work'
• the exploration and challenging of teachers own beliefs and assumptions (p.25 – 27).
'All the research indicates that enquiry-orientated learning is not a quick-fix, but needs to be a sustained over time to ensure that learning (for both teachers and pupils) actually takes place'. (BERA/RCA 2014: 26)
The RGTSA wants to make this form of teacher-led inquiry part of the practice in their schools. We hope to continue with these powerful projects in the coming years.
In this document we provide the reports from the group that describe their work. They document the processes with which they were engaged. In most cases they collected information from their own surveys or interviews and/or from reading literature in the area. They then describe the action they felt to be appropriate and conclude with a brief evaluation of the success of their projects. They all demonstrate their hard work and determination. We would like to extend our thanks to all the teachers and LSAs and the children involved and especially to Jon Curtis-Brignell who helped facilitate the projects.

Professor Andrew Lambirth
Faculty of Education and Health, University of Greenwich

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CONTENTS

1| WHAT CAN BE DONE TO PROMOTE A DISTINCT READING CULTURE AT THOMAS TALLIS?

Elizabeth Church
Thomas Tallis School

1| INTRODUCTION

Thomas Tallis is a large mixed comprehensive school for students aged 11-18. There is a strong focus on creativity and community, and the promotion of education to understand the world and change it for the better. I became whole school literacy coordinator of the school in September 2015 after teaching English, with a responsibility for Key Stage 3, for five years (three of which were at a secondary school in Bath). I have also been a tutor throughout my teaching career and currently am responsible for a Year 9 tutor group.

When I took on the literacy coordinator role, I felt it was important to evaluate and build upon the school's promotion of reading, writing and speaking and listening. Whilst I was aware of some excellent practice taking place in different departments, I didn't feel like the promotion of literacy was consistent and embedded within the culture of the school. One area I am particularly interested in is the promotion of reading for pleasure, both in my role as literacy coordinator and as an English teacher. According to the National Literacy Trust (2006, 5), 'reading for pleasure refers to reading that we do of our own free will, anticipating the satisfaction that we will get from the act of reading.' As an English department, we have tried to make reading for pleasure a priority: we take our Key Stage 3 classes to the library every fortnight, we have regular Key Stage 3 and 5 book clubs, we have trialled Accelerated Reader with Year 7 and have recommended reading lists up in every classroom. However, across the school, and also across the country, I get the impression that reading for pleasure is too often not a priority for young people today and I wanted this report to give me the opportunity to try and improve this situation at Thomas Tallis. I therefore decided to focus on trying to create a distinct reading culture in the school. Whilst in reality, this was never going to be achieved in a year, I wanted to see what differences could be made if I introduced a number of initiatives directly aimed at promoting reading for pleasure.

2| METHODOLOGY

My project followed an action research approach. Koshy (2005, 18) defines action research as an 'enquiry, undertaken with rigour and understanding so as to constantly refine practice.' I believe it is vital for every teacher to also be a researcher so that they can reflect and modify practice in light of their own observations. The action research cycle involves a number of key parts: planning, collecting information, action, observation and reflection.

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There were specific ethical concerns to be taken into consideration during the data collection as it was in the context of a school setting. The headteacher of the school was informed about the aims and expected outcomes of the project and permission was obtained. Participants (or in the case of students, their parents or guardians) were informed about the content, aims and expected outcomes of the study and gave their consent. All participants also had the right to withdraw at all times without questions being asked. The most effective action research, according to Koshy (2005, 27) 'facilitates changes through enquiry' and is 'participatory.' Throughout the action research process, I collected both quantitative and qualitative data, using student focus groups, informal interviews and a staff survey on surveymonkey.com. Koshy (2005, 21) states that action research is about 'generating new knowledge' and Somekh (2006, 18) believes that it 'involves the development of knowledge and understanding of a unique kind.' I will be using the data collection to trial different reading initiatives at the school I work at. The results that I find will be specific to Thomas Tallis school and the context that I am working in, although I hope that it will help me understand wider issues about reading for pleasure and the impact of staff involvement.

3 | AREA OF INTEREST

On September 22nd 2015, I invited Sue Gyde, School Improvement Officer for English and Literacy in Greenwich Borough, to conduct a literacy learning walk around the school, particularly focusing on reading culture. While she found some excellent practice in a number of departments, she concluded that – at that time – Thomas Tallis did not have a 'distinct reading culture'. These findings helped put my concerns into a more tangible context and encouraged me to keep my action research project clearly focused on reading across the school.

It can be a real challenge for staff to promote reading for pleasure with so many competing priorities to contend with. However, I believe that by creating a reading community across the school, it will help with attainment and motivation in all areas. The initiatives I want to put in place need to have reading for pleasure and student enjoyment at the heart of their design, and shouldn't feel enforced. This in turn brings its own challenges as it can make the results more difficult to evaluate quantitatively.

4 | COLLECTING INFORMATION TO SUPPORT THE ACTION

According to a survey conducted by the National Literacy Trust in 2014, children's reading enjoyment has declined significantly in the previous five years, especially amongst older children. This is a worrying trend and one that I am inclined to agree with after teaching for almost six years. With so many other forms of entertainment easily accessible, a growing number of students informally comment that they don't make time for reading and would rather do something else. The PISA Study (OECD, 2002) focusing on 15 year olds also revealed that despite high average scores in terms of attainment, nearly 30% of students in England interviewed never or hardly ever read for pleasure, 19% felt it was a waste of time and 35% said they would only read if they had to. I conducted a focus group with ten students from across Years 7-10 and the results mirrored the national statistics. While 80% of the students said that they enjoyed reading for pleasure, a number qualified this by saying that it depended on the book being read and 40% admitted to only reading something for pleasure either once a month or hardly ever. Students cited homework as a factor in preventing them from reading for pleasure, while 30% of them said that they had more 'enjoyable' things to do, such as play video games, watch television or attend extra-curricular clubs.

The National Literacy Trust (2006, 23) believes that 'schools need to implement a reading promotion programme that will make reading an experience that is actively sought out by students.' Before actually implementing some reading initiatives, I wanted to find out what other schools and experts were doing to promote reading for pleasure. I attended a Literacy Leaders meeting run by Greenwich borough in October 2015, where I met Angie Smith from The John Roan school who carried out a similar project to me last year and whose enthusiastic approach to promoting reading across the whole school really inspired me. I also attended an Outstanding Literacy Conference in central London in November 2015 hosted by Geoff Barton (author of *Don't Call It Literacy!* - 2012) and benefited from excellent advice regarding the promotion of literacy. A number of speakers, including Barton, underlined the importance of involving all staff in the promotion of literacy and Barton echoed the words of George Sampson by arguing that every teacher is a teacher of English.

The reading I conducted revealed different perspectives about how to encourage reading for pleasure across the school. Teresa Cremin (2007, 2) worries that 'many schools had given insufficient thought to promoting children's independent reading or building on children's textual preferences' and strongly believes that student choice should be at the heart of reading in order to boost intrinsic motivation. This suggests that in order to create a distinct reading culture at Thomas Tallis, we should be allowing students to have complete autonomy over what they read and use this in order to shape our reading ethos. However, at an RGSTA literacy conference I attended at the University of Greenwich in May 2015 - Opening Books, Opening Minds - popular children's author, Elizabeth Laird, disagreed with this, saying that teachers should be actively encouraging students to read high quality books, as opposed to allowing them a completely free choice. As quoted in the *School and College Qualifications and Curriculum* (Department for Education 2016, 1), the Schools Minister Nick Gibb believes that 'it is important that all pupils in secondary school are taught to read and enjoy challenging books from amongst the world's greatest literature.' David Didau (2014, 47) takes more of a middle ground: while he believes that children should be encouraged to read 'anything and everything' in their own time, at school they should be exposed to texts that enrich their 'cultural capital.' Although some children will be exposed to classic works at home, the National Literacy Trust identified in 2011 (p. 4) that 3.8 million children did not own a book, suggesting that school may be the only place for some students where we can build on their cultural capital.

What the reading did agree on, however, is that reading initiatives heavily depend on the involvement of all staff across the school. Cremin (2009, 1) spoke about 'Reading Teachers' being vital to promoting a reading community in the school. Research from the UKLA (2007/8, 2) shows that reading for pleasure is strongly influenced by relationships (between staff and students, as well as between parents and children) and promoted the value of opportunities for teachers to interact with students about books. Cremin et al (2014, 158) argues that if teachers are supported to 'develop as Reading Teachers, they can make a positive impact upon children's desire to read, their attitudes and abilities as readers.' It is also important to ensure that students are intrinsically motivated to want to read, as opposed to feeling forced or simply extrinsically motivated through superficial rewards schemes. This links to Sainsbury and Shagen's research (2004, 374), into extrinsic and intrinsic motivation where they outline the positive benefits of intrinsic motivation as key to developing 'a desire and tendency to read.'

In addition to the reading, I also visited a number of local schools to get a clearer understanding of how they were promoting reading for pleasure. I met with Amy Lloyd, the Library Resources Manager at Eltham Hill school, who has successfully promoted reading with pop-up and honesty

libraries, involvement in wider schemes and by creating an inclusive and exciting reading culture around the school. I also feel that much can be learnt from primary schools, as reading for pleasure is often a high priority for them and in many cases is successfully embedded across all subjects. Thanks to support from Juliet Skellit from Greenwich borough and Carolyn Roberts, our headteacher, I was able to visit Deansfield, James Wolfe and Foxfield primary schools and was inspired by the colourful displays promoting reading, the welcoming book corners and also the enthusiastic way that students spoke about reading, right up to Year 6. Of course, these are different contexts and this is why it is so important to ensure that the initiatives I put in place are appropriate and engaging specifically for students at Thomas Tallis.

In order to collect data from the students, I held a focus group with ten students from Years 7-10. I felt a focus group was more effective than a formal interview or survey as I hoped that the students would feel more relaxed and be able to explain their points of view in more detail. During this focus group, I asked students to evaluate some of the initiative ideas that I had come up with for my action, as well as to put forward their own ideas for promoting reading for pleasure at Thomas Tallis. Below is a summary of their feedback:

Reading in tutor time

This initiative would involve students reading a classic book, as voted for by each year group, during tutor time and having a shared reading experience with their tutors. Thomas Tallis has implemented DEAR (Drop Everything and Read) time in the past where students bring in their own books to read once a week during tutor.

- 60% of students said that they would rather read their own books in tutor rather than be told what to read; however most students in the group (70%) admitted that currently they were not really reading during their designed reading slots and would appreciate some guidance;
- Most students (80%) liked the idea of voting for which book to read;
- Most students (70%) liked the idea of reading with their tutor so that the experience of reading can be enjoyed. They expressed enthusiasm about their tutor reading out loud and then the group discussing the book together.

Big Book Sale

This initiative, organised by the National Literacy Trust, involves students, parents and staff bringing in their old books to be re-sold in the school to raise money for charity.

- Some students raised concerns about paying for books when they can get them out of the library, even if the money will go to charity;
- Students didn't feel that an after school book sale would work as there are quite a few competing after school clubs. However, 30% of students liked the idea of involving their parents, with one student admitting that her mother didn't always know what books to buy for her;
- The majority of students thought that the idea would work better at lunchtime.

Dressing up for World Book Day

This initiative would involve staff and students dressing up as a character inspired by their favourite book for World Book Day in March.

- Students in Years 7 and 8 were keener for this idea, as they had positive memories of their whole primary school dressing up and one student said it helped build 'community spirit.' However all students expressed concerns that they might be the only one to dress up which would make them feel awkward;
- Almost all students believed that teacher involvement was vital for any initiative to be a success and many voiced their enthusiasm at seeing teachers dressed up as book characters.

Other popular whole school ideas that came from discussions with the students were:

- More author visits for all years
- Reading for charity i.e. *Readathon*
- Having more books visible in the corridor
- Having book displays around the school, perhaps of teachers or students reading
- More silent reading time in lessons other than English

After evaluating the data I had collected, it was clear that I needed to ensure that any initiatives trialled had student enjoyment at the heart of them, that there was a balance between student autonomy and quality reading, and that staff were actively encouraged to get involved throughout the process.

5| ACTION

Following the collection of information, I decided to trial four reading initiatives:

1) Reading a classic book in tutor time;
2) World Book Day activities, including dressing up, a Big Book Sale and a high-profile author visit;
3) Teacher reading posters;
4) A large-scale reading lesson, linked to a Guinness World Record attempt.

For each initiative, I evaluated the effectiveness through another student focus group, which involved the same ten students I used for the initial focus group conducted in the early stages of my research; an anonymous staff survey using surveymonkey.co.uk, as well as through my own observations and informal discussions with others in the school.

1) Reading a Classic Book in Tutor Time

My first action point was to trial a reading initiative during tutor time, where students in Years 7-10 would read a classic book together as a group. I hoped that this would help build on student's cultural capital and also start to create a reading community around the school, with tutors

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becoming 'Reading Teachers.' I compiled a list of ten classic books specific for Key Stage 3 and Key Stage 4 respectively and asked students in tutor groups to vote for their favourite ones. I hoped that by allowing some student autonomy, this would increase the potential for enjoyment of the books. The most popular books as voted by tutor groups were ordered for each year group:

Year 7 - *War of the Worlds* by HG Wells;
Year 8 - *Pig Heart Boy* by Malorie Blackman;
Year 9 - *To Kill a Mockingbird* by Harper Lee;
Year 10 - *Life of Pi* by Yann Martel.

The books were delivered to tutor groups at Christmas time and I put together power points for each book with suggested activities and prompt questions. Teachers from different faculties went into assemblies to promote the books ready for groups to start reading in January. The idea behind the initiative was that tutors would read aloud with students so that the reading was a shared experience. Some tutors requested audiobooks, although they were only available for To Kill a *Mockingbird* and *Life of Pi.* Initially, the plan was to swap books at Easter, however progress of reading was much slower than anticipated, mainly because of the short tutor time (ten minutes in the morning and afternoon). Tutors kept their books until the end of the academic year.

Response to this initiative was mixed. While the majority of tutors at first took to the idea with enthusiasm, as a result of the slow progress and competing tutor activities, some tutor groups no longer continued to read the book and by the end of the year, many hadn't got anywhere near finishing.

49% of tutors surveyed rated the reading initiative as 'excellent' or 'good' in promoting reading for pleasure across the school. However 32% believed that it was 'not very effective' or 'not effective at all.' Although a number of teachers recognised that it was a good initiative, with one teacher describing it as a 'brilliant idea,' the majority of staff surveyed commented on the difficulty of reading a book in such a short time slot. One tutor commented that: 'as we are asked to do so many things in tutor time, DEAR time and the set of books we have been given have not been read consistently.' Another raised the issue of student absence as being a factor in preventing a meaningful reading experience for students, as week-by-week students forgot what was happening. Another concern raised was the perceived enforcement of books on students, with one tutor commenting that: 'for the ones who didn't read before, yes the idea is good. But for the keen readers they are now reading because they have to.' Some tutors found it hard to encourage their students to read out loud, however those who used an audiobook said that enjoyment of the book increased.

This feedback was mirrored in the student focus group conducted in June. Many students in the group admitted that the reading of their book during tutor time was sporadic, with some tutors leaving it to students to independently read in silence, or not encouraging them to read it at all. While students liked the idea of voting on their favourite book from a list, a number of them didn't like being told what to read and didn't enjoy listening to other members of the tutor group, particularly less confident readers, read the book out loud. They also commented on the lack of time available during tutor time to get into the book. One tutor had extended tutor time in the morning in order to devote more time to the book which had helped speed up the reading somewhat.

After evaluating the feedback, it is clear to me that the reading in tutor time initiative was not as successful as it could have been because it didn't have buy-in from staff and students. Despite my best efforts to build up enthusiasm at the beginning and make the process as fair and student-led as I could, unfortunately it seemed to become a chore for many tutors and students and I didn't personally keep up momentum as effectively as I could have throughout the year. While I want to re-launch the initiative next academic year – mainly because we have invested a lot of money in the books and I still feel that the idea has fantastic potential – there needs to be a few substantial changes, namely:

- The time devoted to reading the book. The current ten minute reading slot is not sufficient for students to get into the book in a meaningful way. However, next year, the tutor time is being extended to twenty minutes and I feel that this will have a distinct positive effect on reading progress and enjoyment;
- The choice of texts. While the books for Year 7, 8 and 10 were more popular and at the right level of challenge, *To Kill a Mockingbird* was difficult for many Year 9 tutor groups, so I have decided to change the book to Curious Incident of the Dog in Night-Time. To Kill a Mockingbird is now going to become an extended reader for Year 9 in English, as it ties in with their study of *Of Mice and Men* at the beginning of the year;
- The motivation to read. I need to carefully consider how to keep up the level of enthusiasm and motivation towards the books throughout the year. Although I want students to be intrinsically motivated to read, perhaps I need to introduce some incentives along the way, or a way for them to tangibly see their progress (a tutor group reading chart, raffle tickets for every chapter read, competitions between groups etc.). I also need to get tutors on side more, so that the experience doesn't feel like a chore.

2) **World Book Day activities, including dressing up, a Big Book Sale and a high-profile author visit**

Thomas Tallis has never really celebrated World Book Day in a big way before, so I teamed up with Sheila Kelly, Deputy Head of Guidance and the school council, as well as our school librarians, Jackie Hall and Anne Hatch, to help organise some fun, high-profile events to promote the event and help to build a distinct reading culture. World Book Day became World Book *Week* as we organised a range of activities every day, mostly on at lunchtime (following feedback from the student focus group):

Monday – 'Guess The Book Quizzes' were emailed out to tutors to run during tutor time;

Tuesday – Big Book Sale ran at lunchtime, where we sold second hand books brought in by staff and parents to raise money for the National Literacy Trust;

Wednesday – visit from popular young adult author Juno Dawson, organised by the librarians, for Year 7 and 8 classes, followed by book signings open to the whole school;

Thursday (World Book Day) – teachers and students were encouraged to dress up as a character inspired by their favourite book. Prizes were awarded to Best Tutor Group, Best Individual and Best Teacher.

Friday – Big Book Quiz ran at lunchtime, where students from Years 7-10 competed in a young adult book quiz, with a prize for the winners.

Fig 1. Performing Arts faculty dressed up as Peter Pan characters (3/3/16)

Fig 2. A selection of staff and students who dressed up as book characters (3/3/16)

Fig 3. Students with Juno Dawson at book signing, following author talk (2/3/16)

Fig 4. Big Book Sale (1/3/16)

Fig 5. The librarians dressed up for World Book Day (3/3/16)

On the whole, I would judge the celebrations for World Book Day as a success. Many staff and students dressed up on the day and this event, coupled with the sales for the Big Book Sale, meant that we raised £635 for the National Literacy Trust. Praise for Juno Dawson's visit was particularly strong and lots of copies of her books were sold after the event. We had eight teams for the Big Book quiz Friday lunchtime and lots of students seemed to be enjoying the fact that we were doing something different.

87% of staff surveyed rated the World Book Day events as 'good' or 'excellent' with only one person saying that it wasn't effective at all. One member of staff commented that 'students love anything out of the ordinary…so the World Book Day celebrations went down a treat' and another wrote that it 'really encourages engagement.' Concerns were raised that the dressing up was only really embraced by the younger years and a few people commented on the relative lack of engagement by staff, with one member believing that 'more of a fuss needs to be made by all.' The student focus group were largely positive about the week, although the students in Years 9 and 10 showed little interest in dressing up. They also raised concerns that the author visit was only targeted at Key Stage 3 and would like an author to speak to Key Stage 4 students in the future. Considering this is the first year Thomas Tallis has attempted anything like this, I am really proud of

the effort made by many members of staff and students and hope that this event will become embedded in school culture the more times we do it.

One of the main reasons why this event was successful is because it largely had student buy-in and many staff made the effort to promote World Book Day. It took a lot of organisation, but it was worth it to help build a distinct reading culture across the school. I would like to repeat this event in the future, trying to involve more students in the organisation and encouraging even more staff to get involved and dress up. One idea that came out of the student focus group was for the money raised by events such as World Book Day to go towards literacy initiatives in the school, such as more books for the library or funds for more author visits, rather than a national charity.

3) Teacher reading posters

Following ideas from the student focus group at the beginning of the year, I wanted to try to get more posters about the school promoting reading. Inspired by the idea of 'Reading Teachers,' I asked all members of staff to bring in their favourite reading books on an inset day in April and went around taking photos of them in various reading poses. These posters then were put up all around the school from May onwards, and promoted in our weekly school newsletter.

The posters had only been up for three weeks when I sent out the staff survey. 36% of staff believed that the posters are either 'good' or 'excellent' at promoting reading for pleasure, however the majority surveyed were still undecided about their impact. One person commented that they hadn't heard anything either positive or negative about the posters.

I created the posters in order to help promote Thomas Tallis as a school with a 'distinct reading culture' with 'Reading Teachers' and I thought it was important to have them visible around the school, and also at reception for parents and visitors to view. However, it is only really a starting point and there is undoubtedly room for improvement. During the student focus group, ideas discussed included having teachers talking about their favourite books in assemblies and also having posters of students reading, perhaps with their teachers. Also, one member of staff thought that the posters would be more effective if they had an explanation of why the book was a favourite of the teacher reading it. These are all really useful evaluations to help make the reading posters and teacher involvement more meaningful.
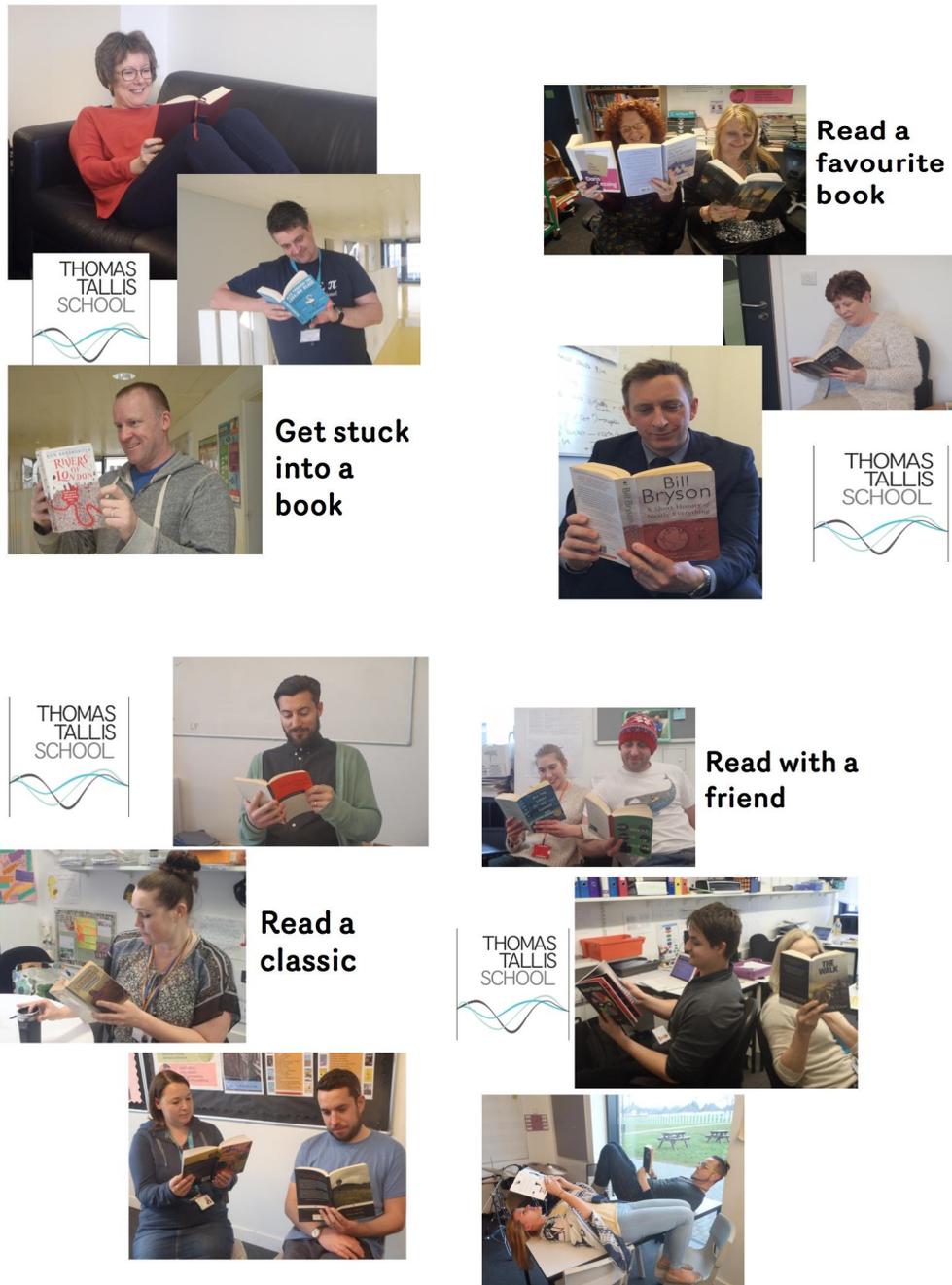
Fig 6. The four reading posters, created in May 2016

4) A large-scale reading lesson, linked to a Guinness World Record attempt

Thomas Tallis was lucky enough to be selected as one of the schools involved in a Guinness World Record attempt for the 'World's Largest Reading Lesson.' 75 other schools around the country were also involved in the attempt and the aim was to break the current record of 3,509 people. The challenge was to organise a large-scale reading of the first chapter of *Harry Potter and the Deathly Hallows,* at a specific time and on a specific date. Reflecting on the initiatives so far, I was conscious of the importance of making it something out of the ordinary, encouraging student buy-in and also involving staff in a positive way. I managed to persuade five members of staff – including three members of the senior leadership team – to dress up as characters from *Harry Potter* and read parts. The drama department also recommended a number of keen students who were willing to

read smaller parts and dress up as Death Eaters. We gathered the whole of Year 7, and selected classes from Year 8, into the main hall for the reading. The music department also offered their talents and played selected tunes from the *Harry Potter* film franchise. It was a fantastic event involving a large number of staff and students: we had a total of 342 in the audience and 16 performers.

Fig 7. World's Biggest Reading Lesson performers (24/6/16)

Fig 8. World's Biggest Reading Lesson audience (24/6/16)

This event took place after I sent out the staff survey evaluating reading initiatives, so I have no quantitative data to show feedback from either staff or students. However, the reaction was largely positive. Students were fully engaged throughout the performance, and the attempt to break a Guinness World Record at the same time seemed to add extra excitement. A number of staff who were not teaching at the time came to watch the performance, and were very positive about the experience. After the event, I was emailed by one member of staff in the audience who praised the

event as an 'amazing success' and a number of Year 7 tutors informally commented that their groups really enjoyed it.

This was a one-off event, however the atmosphere created is something that I would love to replicate much more in the future. While the performance was lots of fun and we were attempting to break a record, the focus was very much on reading and I made sure to promote the Harry Potter books and reading in general before and afterwards. Like with the World Book Day celebrations, the staff and students at Thomas Tallis School responded very positively to something out of the ordinary.

6 | OVERALL EVALUATION OF THE ACTION

While there is a lot to take on board from this year, I am largely very enthused by the progress made towards creating a distinct reading culture. We have had a number of successful high profile events, although it is going to take longer to embed an effective reading culture into the day-to-day life of the school, and for all students.

From the staff survey, 73% of staff surveyed rated the promotion of reading for pleasure across the school as either 'good' or 'excellent. Many staff made positive comments about the rising profile of literacy across the school, and a number said that reading is starting to be more widely talked about. One teacher commented that: 'a lot of students don't see reading as something enjoyable. However, we are promoting it as a school.' Another comment was that 'all initiatives are reliant on application by staff but I have thoroughly enjoyed the vast array of initiatives to take part in.'

Sue Gyde from Greenwich Borough returned to the school in June 2016 to conduct a follow-up literacy learning walk and made a lot of positive comments about the initiatives we have trialled. In her report, Sue noted that 'from a starting point where a reading culture… was confined largely to the English department, the school now has a markedly more evident reading culture' and informally commented that the progress made was 'heartwarming'.

7 | CONCLUSION: CHANGES IN IDEAS AND PRACTICES

The action research cycle has provided me with a fantastic opportunity to meaningfully reflect on the different initiatives aimed at promoting reading for pleasure trialled at Thomas Tallis this year. In the past, I haven't always made enough time to evaluate different initiatives I have put in place but following this process, I now fully appreciate the usefulness of doing so and will continue to apply it both to my role as literacy coordinator and as a classroom teacher. This experience has also given me the opportunity to work with colleagues from other schools and benefit from their experience and I will continue to regularly meet with them in the future to ensure that we are sharing best practice. Learning from the experts, particularly Geoff Barton, Teresa Cremin and the National Literacy Trust team, has been incredibly rewarding and invaluable, and their research will form the basis for any future literacy project I embark upon. Reading around the topic of reading for pleasure has been incredibly valuable and I will continue to embed this into my professional development, sharing my findings with other members of staff.

As Koshy (2005) outlined, action research is 'participatory' and one of the most useful lessons I have learnt during this process is the value of staff and student feedback. Some of the initiatives I trialled – reading classic books during tutor and dressing up for World Book Day, for example -

came from other sources, but in order to boost their success in years to come, I need to make sure that the decisions taken are suitable for the specific context I am working in and relevant for the staff and students who will be involved. Building an effective and thriving reading community is not something that happens overnight but I understand that at its heart is staff and student relationships, and this is something I want to build upon in the future.

I will be continuing in the role of whole school literacy coordinator for the foreseeable future, and I will be using the action research model to continue to reflect upon the initiatives trialled and generate ideas suitable for the day-to-day embedding of literacy across all subjects. In the staff focus group I conducted towards the end of the year, I asked staff what their subjects currently do to promote reading for pleasure. 35% admitted that their subjects do either nothing or very little, which suggests that more support is needed. Interestingly one member of staff commented that 'I don't think reading for pleasure is curriculum responsibility' and this is an interesting starting point for discussions regarding staff involvement. The rising profile of literacy across the school will hopefully allow greater promotion of reading, writing and speaking and listening on a day-to-day basis across all subjects in the near future. It is fundamental that I continue to use the action research cycle to collect information, analyse data and reflect on any ideas trialled as our school literacy plan continues to develop.

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2| EXPLORING THE ROLE OF PEER TEACHING ON SUPPORTING CHILDREN WITH ENGLISH AS AN ADDITIONAL LANGUAGE (EAL)

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Primary School

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1| INTRODUCTION

I am a class teacher in a one-form entry Greenwich Primary School. I have taught at the school for two years, in two main capacities: year 2 class teacher and Modern Foreign Language teacher. Currently there is a relatively high proportion of children who have a native mother tongue other than English. Some children have received an introductory period of EAL support by means of intervention, which lasts between one and two terms.

The reason for my action research project stems from this. The arrival of a child from Bulgaria into a year 5 class, who has no previous knowledge of English, prompted me to question what additional support may be needed in order to meet the government's expected standard of attainment. The study for this project has been undertaken during the academic year 2015-6, from November to June.

2| METHODOLOGY

Action research is a way of creating new knowledge through a practical context. Essentially, Koshy (2005) describes the purpose of action research as being 'to learn through action leading to personal and professional development' (2005). Carr and Kemmis (1986) also suggest that action research should allow 'constant reflection on educational practice' and 'greater autonomy and responsibility in the curriculum'.
Carr and Kemmis (1986) also argue that in order for teaching to continue to be regarded as a professional activity, we above all need to cater for our client base. Increased educational research, in particular action research, will enable us to achieve this in a greater capacity. Not only will this type of research invite a wider range of knowledge, it will also invite us further into the realms of collaboration, for quite simply, there is a sufficient similarity in most schools that the knowledge generated by action research ought to be transferable and useful beyond the local and into other classrooms.

One other positive element is that action research adopts a cyclical approach to transforming and understanding practice. The beauty of the cyclical nature of action research is that we can constantly reflect in a profession of constant change. The researcher can never assume a value-neutral stance, and is always being implicated in the phenomena being studied (Walsham 1993). The reason action research is seen as being so successful in education is that the impact is so direct, and the value of the research is always measurable.

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If a strategy has not worked then we as education professionals are getting closer to why that might be. We are thus able to obtain data and information without the need to assume an objective stance that results in directly assuming that learning is the same journey for all. Carr and Kemmis (1986) discuss general traditions in educational studies and allude to the 'need to place education as a process of 'coming to know'' Brown-Martin, in his book 'Learning reimagined' (2014) also discusses this idea of subjectivity in education. Elaborating on his theory of the *tyranny of normal*, he suggests that it is impossible to measure what is normal and that the insistence on maintaining the status quo produces children as 'a product for a master no longer there'. If we don't undertake these cyclical paths of research, of trying out an action and reflecting on its successes, then we are surely passing children 'along the conveyor belt' rather than, as Brown-Martin (2014) advocates, seeing education as a passport where the outcome depends on 'who controls the borders'.

What this discussion highlights is that action research accepts that reality can only be understood as a social construction – an agreement between those within a culture. In doing so it encourages professionals to do the research themselves and produce their own knowledge based on their interpretative traditions. As I have shown, the crucial reason for celebrating the value of this type of research is that it clearly mirrors what the field of education is trying to do. We must allow action research to facilitate this system of learning without frontiers in order to reach the ultimate goal of making us more independent and critical.

Ethics

In order that my work is confidential, the child and family I worked with, as well as the school, will not be named. The children I interviewed will also remain anonymous. For the purposes of the project I was working weekly with one child in year 5 and her Mother, meeting twice weekly. Data was collected by means of observational notes, Ipad recordings and copies of edited work. All work was completed in school hours on the school premises. Through the school the work was unable to be confidential as we were seen working together and permission needed to be obtained to use school space. I obtained informed consent from all participants, as well as permission from the Headteacher and Class Teacher to undertake the project. The children interviewed were also asked if they were willing to take part in the project. They were told that this was not compulsory and they could change their minds at any time.

2| MY CONCERN/ AREA OF INTEREST

The intervention that exists for EAL children in my current school is a short-term introduction to basic vocabulary and basic conversational language. This lasts for 1-2 terms and is not age or ability specific. Many children have come to the UK, to our school, at a young age, allowing the initial boost of language to be effective as a starting point to embed their English alongside their peers. My concern arose upon the arrival of a girl from Bulgaria into a year 5 class. Receiving the interventions as per the standard practice, the class teacher instantly expressed concern over how this child would be able to access the year 5 curriculum, in particular in literacy. With the pressures and demands of the new curriculum, and for a child who had no prior knowledge of English at such a high school age, my

concerns were essentially whether there was any additional support that would help to develop her language and in turn close the gap for her attainment. The problem in this case is that the year 5 curriculum is much more advanced than the basic level of language that is provided in the initial stages. There is a vast amount of literature on the topic of EAL owing to the high proportion of people who study in a language that is not their mother tongue. Murphy (2014) for example has undertaken numerous studies into Upper Key Stage 2 performances of EAL children in the UK. Her recent study measured writing capabilities in a variety of skill sets, profiling children based on chronological and language age. The findings were useful and have served to highlight the needs of EAL children on a general level in years 5 and 6, such as vocabulary knowledge and skills required to develop organisational and extended writing. Burgoyne (2009) also alludes to these skills, determining that written and spoken comprehension is key to deciphering the needs of EAL children, in order to ascertain word reading skill and general language skill.

Observation was a useful method for me initially because it provided me with information about real-life situations, in particular in respect of the fact that the child would be unable to explain her difficulties to me independently. It was also less intrusive than other forms of research in that the child seemingly felt no need to act differently and I could make judgements in an environment that she was comfortable in. I was able to see normal school environment behaviours without it being intrusive and hoped I would be able to see elements of EAL learning that may have been overlooked. Of course the disadvantages are that those being observed can change their behaviour and in that snapshot of time it can be difficult to create a general picture, not to mention the potential for overlooking key elements that the observer does not deem to be important.

I then interviewed a group of Key Stage 2 children, EAL, who had been in the school from year 1. The exception was one child who arrived in year 3, now in year 5. The advantage of interviewing these children would be that I might be able to ascertain what helped these children to secure their English skills, and would be areas I had perhaps not considered, thus potentially inviting a new line of inquiry. In order to avoid bias I was careful to make my questioning broad. It can be difficult to control the focus topic, but in this instance I took the view that all areas of comment would be valuable in some capacity: the key was in the summary of responses. In adhering to the principles of action research, who better to ask than those children who had lived through it? My constraints here must be mentioned: I went into this interview unaware of how reflective a child can be about how they learnt English and in addition how they used it to be successful in their learning. I also needed to remain aware that these children, much like the case studies used in the literature studied, have had chances to develop their English over a number of years. They in fact stated this themselves in the interview. Nonetheless I was given the key to my questioning. Individually, every child I interviewed stated that the best way they learned English, in their view, was to go home and teach it to their parents. This is by no means a new idea - This is a crucial similarity between these children and the child I was to be working with: parents with limited English.

4| ACTION

The action I undertook was to measure if there was any noticeable improvement in the child's English ability through a programme of study, where a weekly lesson was taught by me and it was followed by the child teaching the same lesson to her mother. The criteria were explained to the child, namely that she was able to explain her understanding in her mother tongue or in English. She decided she wanted to speak in English. The lessons were planned based on mistakes I saw in the child's work, such as possessive pronouns. Once we had completed the lesson I asked the child each week how she would like to teach. Each time she elected to write a script to explain to her mother what she would need to do.

Upon my observations it was clear that her grasp of functional English and grammar was measurable: the mistakes I found and subsequently taught were rectified by her and she was able then to edit a previous piece of work correctly. What she was unable to do was explain this to her mother. In her native language the possessive pronouns do not follow the same format so she was unable to liken words to her own understanding of language. In the initial lessons I helped her to explain so she was able to address her mother's misconceptions more effectively. Once she was able to grasp this, I explained that I would not be able to talk and that she was responsible for the lesson. Observing this allowed me to discover instructional language that was developing, as well as an emerging knowledge of tenses. When correcting subsequent work, it was clear that there was an improvement and a consciousness of sentence structure. What I was unable to measure however, was whether the improvement had come from reinforcement (my teaching) or through explanation of her understanding to another person.

The effects of peer teaching have been widely discussed: the annual review of Applied Linguistics for example concluded in a 2002 study that 'peer peer collaborative dialogue mediates second language learning.' Whitman and Fife (1988) echo this view, asserting a number of reasons for the positive effects of peer learning. Improvement in socialisation, increased enthusiasm for learning and most notably, that it allows students to 'learn twice' were all findings of their study. This latter part was my initial goal: would this child consolidate her understanding through taking on the role of teacher? For this reason we changed the focus of the lessons. Instead of me teaching to address her errors, our lesson was spent planning an activity for mother. A subject of the child's choice, but something that she had learnt alongside her peers in class. This of course, by virtue of me not being her class teacher, meant she then had to explain it to me. This enabled me to see how well she had understood her learning, not just in English but across the curriculum. I allowed the child again to choose the language of instruction. She chose every time to write down her instructions and what she wanted to say, in English.

What transpired was that we had addressed many of the concerns through this method, as well as highlighting other areas for concern. In explaining her Math's learning, her subject of choice, the child was able to highlight aspects that she had understood well, and elements she was not secure. I was able to then feed that back to her teacher, as well as her mother, who was not able in English but able in Math, and who noted that she now had an outlet to pick up on her daughter's misunderstandings. Discussing Math's concepts also allowed me to see a greater depth of explanation, highlighting opportunities for an increased and cross curricular vocabulary. Gartner, Kohler and Reisman (1971) referred to by Whiteman and Fife

(1988) discuss many cognitive benefits of peer teaching. In order to teach, they assert, the teacher must review, organise (and thus seek examples to illustrate) and possibly reformulate in one's own terms, as well as simplify the learning in the quest for a basic structure. These aspects are all essential in order to reteach, so we must not ignore the depth of the understanding this child needed to reteach her learning each week. What this has now opened up is a regular pathway of communication in order that the mother can be better informed of the type of work her child is doing in class.

I have referred to noticeable progress in written form through lessons I have taught, but as stated, I am unable to unreservedly claim that this is a direct result of the child having to explain her work to her mother. External contributing factors include my additional teaching, as well as the progress she will naturally make through high quality class teaching from her teacher. Nonetheless, the skill that is required for this child to undertake the tasks I have set her each week must be noted. The cognition and understanding needed to consolidate her own thoughts, to translate this and subsequently explain to someone else, who has no grasp of the context in which it had initially been delivered, is high. I do feel that this is worth developing in further cycles. The question in a further cycle will be how to hone in on a measurable target whilst continuing to follow the same process.

In summary, this action has been effective. In a further cycle it is easy to see where this learning could go. The concept of project work, peer collaboration and peer explanation essentially means this type of intervention could be tailored in any way a teacher or student sees fit. The important thing to remember is that the allocated time to teach someone else, to explain understanding or misunderstanding, has allowed for a greater depth of comprehension, which is essentially what the academic literature has highlighted. This could easily be embedded into whole class teaching, thus addressing the needs for peer work and collaboration. The development of English can also work alongside the continued development of the mother tongue, such as explanation of the core text and related activities.

At this point in the action research, written progress is limited. But the development of the process will, I feel, continue to meet the needs of EAL children in class. Koshy (2005) also cites Reason and Bradbury in *The Handbook of Action Research* (2001) in stating that the process of inquiry is just as important as the specific outcomes owing to its concern with living knowledge. This can be confirmed in my own research, in particular in reference to the importance of the self-reflective stance of my case study. I believe that the child may take the reins in her own development of English now, possibly using this peer teaching tool to consolidate areas of learning of her choice. To have not reached the final outcome yet is not to say that the research has been unsuccessful. I have created new forms of understanding that I wouldn't have experienced without the action. For, to quote Koshy's citation, 'action without understanding is blind, just as theory without action is meaningless' (Koshy 2005, 9).

4| CHANGES IN PRACTICE BASED ON THE EVALUATION OF THE ACTION

As a class teacher, it is vital that individual goals you set for your pupils are achievable. This includes not being too resource-heavy and also being easily modeled for independent access where possible. I believe that this will need to be considered, as I was fortunate to have time out of class to work 1:1 for a significant period of time. This also of course depends on the nature of the children, a peer is required who can also address the misconceptions, or who also doesn't speak English. In a one form entry school this is difficult to manage. It could be marketed in the way we addressed it, but again this was completed in school hours with the child's parent: would it be as effective if completed in private at home? In the next cycle, perhaps I could ask the child and mother to work at home and we can reflect further on this. The research has certainly posed further questions, such as at what point writing becomes the focus and whereabouts in the cycle it would fit, and also which is the 'best way' to adapt the cycle. Yet this last concern is actually in my view what could make it more successful. As a relatively new teacher to the profession it is difficult to contend with the idea that we can have autonomy over our practice. Yes, we have different ways of reaching the same end goal, but what this research has opened my eyes to, is how imperative it is that all teachers undertake research like this, that all teachers take time to reflect, that all teachers take time to consider the reality they want their students to construct. Moving forward it will be vital that I remind myself of this and where possible, ensure I am treating my work like an action research project at all times. One of my most crucial findings as a teacher, through this project, is that we must where possible, allow children to dictate their own paths of learning, to construct their own realities and to reflect on their own practice. Without this element in my particular piece of work I would not have come to the conclusions I did, to the set of results and reflections I was presented with.

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3| REDEFINING "READING": AN ACTION RESEARCH PROJECT ON THE USE OF NON-TRADITIONAL TEXT TYPES AND ENVIRONMENTAL PRINT TO PROMOTE BOYS' READING ENJOYMENT

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1| INTRODUCTION

Context: This research was conducted in Horn Park primary school in Lee, South East London. The participants were two classes of year 2 children, within which two focus groups of 8 boys were formed. The focus of the project was to test the impact of environmental print and non-traditional text types on boys' motivation to read.

Issue: A core priority of the school directly relates to reading and a persistent concern of ours has been that the boys in our classes were far more reluctant to read than the girls, or more vocal about their negative or indifferent attitudes towards reading. Cognizant that the children were at an impressionable age, we felt uneasy that these attitudes would become ingrained and lead to a lifelong disinterest in reading. Despite our school's established reading culture, problems persisted with boys in particular habitually failing to return and collect reading books and disengaging during guided reading sessions. Through reflection and discussion, several questions emerged: Was reading for pleasure predicated on skill? Were children aware of the world of literacy beyond books? Did we value it in school enough? Does fluent reading even matter if no pleasure comes with it?

Literature review:
Reading for pleasure
Through reviewing related literature it became clear that nurturing lifelong readers was not predicated on skill acquisition, but on cultivating a *love* of reading (Sanacore 2002). Although the benefits of reading for pleasure are extensive, a growing number of children do not read for pleasure (Clark and Rumbold 2006). A number of children's authors (e.g. Anne Fine, Philip Pullman) suggest that our assessment-driven culture of targets may have stripped away the thrill of reading itself (Powling et al. 2003). Indeed, a preoccupation with raising attainment over fostering delight was supported by Twist et al (2007) who found that, despite improvements to reading achievement, enjoyment of reading has declined since the introduction of the National Literacy Strategy. An obsession with the linguistic, structural or lexical aspects of texts may have lead to a neglect of the reason for reading itself (Cremin 2007).

Non-traditional text types

Also worrying is the pervasive trend that boys' attitudes towards reading tend to be distinctively more negative than girls' (Clark 2011). However, what particularly piqued our interest was research from Merisuo-Storm (2006) who found that although girls enjoyed reading significantly more, boys enjoyed reading less traditional text types, such as comics and iPad applications. Could it be then that, through book-bias, we were promoting a limited choice of print type, therefore restricting their views of literacy as a whole? Indeed Lever-Chain (2008) also found that boys viewed reading not as a pleasurable pastime, but as a compulsory school activity. To awaken children's interest in language and literature, children's textual preferences (be they a curiosity for computer games or menus) could be fundamental.

Literacy cultures

In his work on literacy cultures, Brian Street (2011) argues that literacy is ethnocentric and only engages with Western views of literature. The author suggests that teaching should move towards a more culturally relative view of "literacies" not literacy, one which involves, rather than alienates all types of reading and writing, from a variety of cultures. He warns that the effect of these narrow definitions of literacies may invoke a feeling on inequality on the learners themselves. We became concerned that our traditional school view of reading, firmly focused on books, may have alienated parents and carers, for whom more popular and media texts may be central to their home literacy practices. Indeed, the literature suggested that the curriculum reflects the cultural norms of white middle-class communities in particular (Marsh 2000).

2 | METHODOLOGY: COLLECTION OF INFORMATION TO INFORM ACTION

In order to inform our action and divulge more about home literacy practices, we chose to conduct interviews with a mixed group of boys who showed few signs of engagement in reading. Conducting informal interviews can minimize the 'stage fright' young children may feel, therefore offering more valid results.

Following the BERA Ethical Guidelines (2011), we received permission from our Head Teacher to move forward and all children assented to all interviews. Their anonymity and right to withdraw at any time was assured. We used similar interview questions to Nutbrown and Hannon's (2013) study on children's perspectives on family literacy:

1. Do you read at home?

2. Who do you read with?

3. What do you read?

4. On a scale of 0-10, how much do you enjoy reading? Why?

This interview provided a good snapshot into the issues we had and how we could confront them. When asked what they read at home, only two of the twelve boys stated that he read something other than a book. Most of the children had a narrow view of what reading entailed, just mentioning traditional texts, for example, Child B simply stated that he "just reads books. Nothing else."

When asked about their reading enjoyment, the results were enlightening. Giving their love of reading a score between 0 and 10, only 30% of the children scored 9 or more, with 70% giving 5 or less.

Analysing the interview data, we were able to group our children into two "types" of readers: high reading proficiency with low motivation, and low reading proficiency with low motivation. This mirrored literature we had read from Cremin (2007) who stated that:

"Low achievers often have limited intrinsic motivation to read and indifferent or negative attitudes towards reading and may see reading as a chore" (Cremin 2007, 3).

Following the interviews we implemented our action: we introduced a wider range of text types and a blank scrapbook where children were encouraged to note down, stick or write about anything they read at home, outside or in school. They were encouraged to think about the literacy that made up their environments (environmental print) such as street signs, comics, computers, iPads and packaging. This process was modeled to them and the children were given the chance to share their scrapbooks regularly. Alongside this, we involved parents by hosting weekly stay and read sessions where they were invited into class to read with their child and use the scrapbooks, enabling us to break the barrier between home and school.

Throughout the project we took photos of the scrapbooks to measure impact and observed the children's behaviour during the stay and read sessions. In the summer term we conducted post research interviews with the same pupils, allowing us to assess the impact our action had had on the boys' intrinsic motivation to read.

3| ACTION

The action was evaluated through the analysis of the scrapbooks, attendance and engagement with stay and read sessions, and through post research interviews.

Interviews:
Asked again how much they enjoyed reading, all but one child said 9 or above, as the table below shows:

	Score Before	Score After
Child A	1	10
Child B	0	1
Child C	3	9
Child D	10	10
Child E	10	10
Child F	5	100
Child G	3	500
Child H	1	9
Child I	10	10
Child J	5	10

The enthusiasm for reading and the passion with which children talked about their scrapbook was evident, for example, when Child F said, "When I use it I feel joyful." In the initial interviews, 5% of the children's responses referred to reading as a pleasurable pastime, whereas in the follow-up interview, 53% of responses related to enjoying reading, for example, Child G stated he enjoyed reading "enormously more" as a result of using the scrapbooks and gave reading a new score of "500" out of 10, vastly different from his previous score of 3/10. He also shared that, having used

his scrapbook with his mother, he was now being encouraged to explore more diverse text types, such as the Braille alphabet and newspapers.

Scrapbooks

The children filled their scrapbooks with extremely varied types of literature, suggesting that the action had allowed them to broaden their views on literacy as a whole. These types of literature included: newspapers, road signs, fast food symbols, online games, ticket stubs, letters, transcribed stories, school newsletters, cereal boxes, stickers, crosswords, maps, foreign alphabets, leaflets.
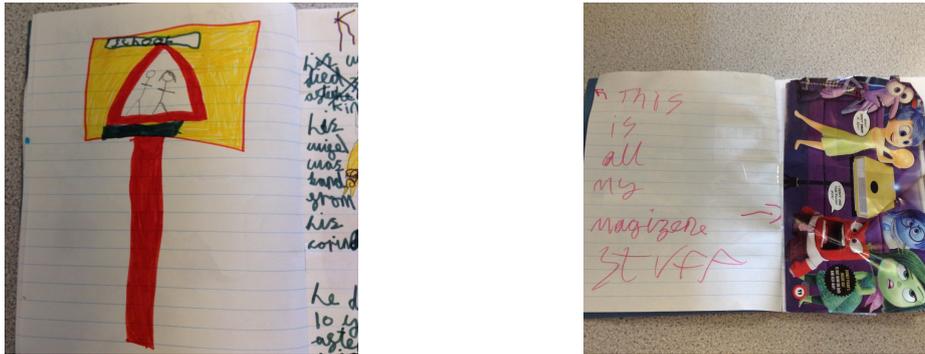

Fig. 1 and 2: Examples of scrapbooks

Child B, who had stated that he "only read books" and who had given a reading enjoyment score of 0, came in the day after we introduced the scrapbooks, full of excitement, wanting to show the class. Inside were cut outs of newspaper articles about endangered animals.
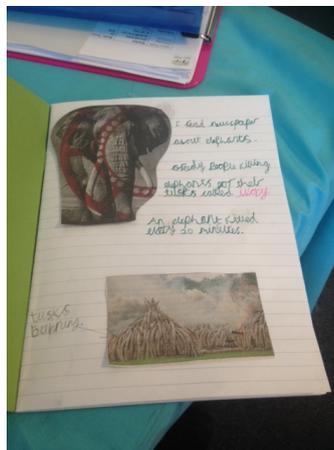

Fig. 3: Example of a scrapbook

He had taken so much care in cutting them out neatly and annotating the pictures with the facts he had learned. When he shared it with the class, he stated that he read newspapers on a regular basis and enjoyed learning "facts about the world". It became clear that children were using them regularly and were beginning to appreciate the literacy they encountered beyond the books they read.
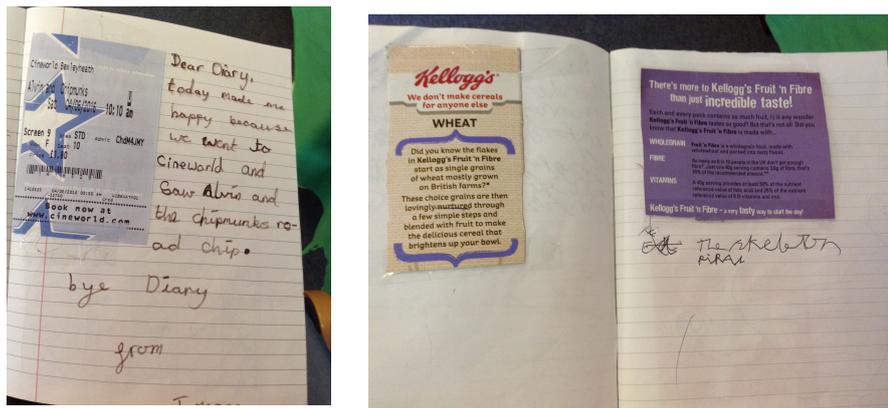
Fig. 4 and 5: Examples of scrapbooks.

Stay and read sessions

Through informal conversations with the children and parents, it was evident that the new 'stay and read' sessions had generated much buzz and excitement. For example, one parent, who came each week, said, "It's interesting for me seeing what he chooses to read with me, it's not what I expected". Posing the question to the entire class, every single hand was raised when asked whether they prefer the new weekly 'stay and read' session to the old monthly sessions. Child H, the child of the parent mentioned above, said, "It's better this way. You get to read with your friends and with your friends who haven't got parents here. You can join in with your scrapbook and it makes it more exciting to share it." On average, 7 parents attended each week, with a spike in the 5th week, where 10 parents attended.

4| CONCLUSIONS AND RECOMMENDATIONS

The introduction of non-traditional text types and environmental print through a scrapbook seemed to have had a positive impact on boys' attitudes towards reading, and their conception of what reading is. The children who read but didn't engage in the texts provided by school were able to share what they actually read and see these non-traditional text types as "real reading". The boys who had low reading and confidence levels showed signs that they were able to see all the accessible literacy that formed their surroundings and began to see themselves as readers for the first time.

The impact of a scrapbook of this type is very much dependent on a number of variables. One important aspect is the attitude of the teachers themselves. The class teacher must ensure they model the use of the scrapbook and the joy of reading non-traditional text types to the children. When we first introduced the scrapbooks, the children did not use them as much as we thought they would and submerged back into their normal reading routines. After having modeled this process to them the children were able to see what it looked like, and saw that we as class teachers were willing to listen to what they were reading, and accepted all types of reading in the classroom. Involving parents was also important. Without parental involvement, reading remained something the children just did at school as learning, and not at home or for enjoyment. Having the parents see the scrapbooks, use them, promote them and support the children in the process was vital to breaking these barriers.

Overall, a "drip-drip" approach to this project was key. The scrapbook should be used and referred to not just at certain times or places, but throughout the week, both at home and at school. This allowed the pupils to see reading as being "everywhere" and "anything". According to this study, a

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scrapbook of this type helped us break down the traditional definitions of what "real reading" was within our classrooms. It opened our eyes to the importance of non-traditional text types and environmental print in the lives of our pupils, and it opened their eyes to a whole new definition of what reading was, showing them that all reading is enjoyable, valuable and acceptable. This in turn, inspired them to read more and read widely, promoting their intrinsic motivation to read. It could be argued that the scrapbook for these children "was the first book that made [them] realise that reading is real…" (Cremin, 2007, 6).

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4|HOW DO BOYS MAKE POSITIVE PROGRESS IN GCSE ART AND DESIGN?
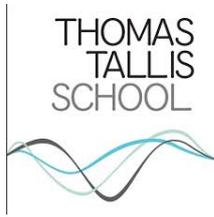
Kerry Gibson
Thomas Tallis School

1| INTRODUCTION

The research took place at Thomas Tallis Secondary School, Kidbrooke, South East London. Thomas Tallis is a large mixed comprehensive school. The focus was on a year 10 GCSE art and design group. A group I have been teaching since the beginning of year 9. At the time of research the group was made up of 8 boys and 8 girls that were mixed ability. The research was prompted by the art department exam analysis in September 2015 where we made references to under performing boys. This led to me thinking about their motivation around homework (h/w) and art generally. The study was generated in the spring/summer term of 2016. The action lasted 6 weeks.

Issue: What problems do boys face studying GCSE art and design?

I have been an art teacher for 16 years. During this time I have been an Advance Skills Teacher, a Head of Department and exam moderator for Edexcel. I have taught GCSE courses continuously during this time. I was familiar with the issue of some boys lacking motivation in the subject and my hunch was that homework was perhaps the problem alongside other concerns. When exam analysis takes place each year post GCSE exams there is a trend of boys gaining lower grades to that of girls. Boys are somehow turned off by the rigour of doing a coursework based GCSE, but why? Currently the GCSE course is split into 2 units. Unit 1 is course work and is 60% of the students' overall grade. Unit 2, the externally set unit is the exam unit, it is worth 40% of the course but is delivered over about a 9 week period. The very nature of the subject according to boys discussed by Coles (2012, 1) is '(boys are) not continuing with art and design and they will talk about the lack of opportunity to do fun projects, the emphasis on drawing and writing…..and the fact they don't 'see the point' of the subject'. This concerns me. It is a well known fact that the creative industries are dominated by men. However, less males are choosing art and design at GCSE and A level.

After some reflection I have focused on three main issues I feel have an impact on boys performance in GCSE art and design. **Firstly - boys motivation about the subject, particularly using sketchbooks. Secondly - the seemingly lack of knowledge shared with boys (and girls) about creative industries throughout secondary school. Finally, about how boys view art and value homework.** My concerns have grown over the years. The gap between boys and girls performance has always been there. I felt I wanted to find some possible answers. I planned to do a full cycle of action research.

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Action research is about finding out new knowledge, or reflecting on new knowledge and questioning its effectiveness. This knowledge is linked to a practice within our area of expertise. As put by Koshy (2005, 13) 'the main role of action research is to facilitate practitioners to aspects of practice'. A cycle of action research follows the model of observing, reflecting, planning, and acting - the stage of 'acting' would then lead onto further observations and the cycle would begin again. Action research should contribute to continued professional development. The process needs to be meaningful. As teachers we need to be reflective practitioners to support us making changes to impact teaching and learning in a positive way.

Ethical consideration is vital throughout action research. For my action research I gained permission from my Head Teacher and Head of Faculty. I contacted all parents of the sample group I worked with. All surveys and questionnaires were anonymous apart from students and parents identifying genders. I chose to audio record the sample group rather than video them to protect their identity. I have identified the students with a letter. All students were informed they could opt out of the process at any point.

I developed a scheme of work to try to address the three main issues. I focused on a sample of boys. I then monitored their motivation, they were interviewed and surveyed and I gave them choices regarding completing homework. I reflected and observed these findings.

2 | METHODOLOGY: COLLECTION OF INFORMATION TO INFORM THE ACTION

I began by speaking to teachers in the art department. We talked about the differences between boys and girls in art. We all had similar views. Boys, often don't enjoy working in a sketchbook, whereas girls generally do - this was stated in Ofsted (2009).

Boys don't enjoy writing about art and making written connections to other artists' work (this is part of one of the assessment objectives on the course). We felt many boys enjoyed choices of techniques and materials and that they preferred working in 3D.

I began reading a range of material to inform my action. These articles ranged from subject association papers to article linking to teaching in middle schools. The information I read covered not only subject specific issues around motivation but also global and national statistics about the creative industries.

Coles (2012, 1) questions teachers' choices about teaching certain techniques and ways of research compared to others 'So, are we all including new media and technologies, three dimensional work, different approaches to 'drawing', research tasks (which are not about cutting and pasting from Wikipedia), discussions, debate, visits to galleries, open-ended starting points, personalised learning approaches?' Having read this article I began refining the scheme of work the group were about to start working on. Changes in the project needed to boost motivation. My main change was to ensure all the students had a choice of materials to work from and that their work was personal to them.

Clark (2008, 2) when performing research across a boys middle school states that 'attitude and motivational data indicates boys do not seem to think school is as important in their lives as do girls'. I began to think about how boys saw art not just in their school lives but beyond. Do we discuss enough with students what art means to them? Do they know about art careers and what

the qualification(s) could do for them later on in life? My answers to these questions where 'no'. We spend virtually no time contemplating these topics with students. This backs up Coles's (2012) argument that we are not delivering an art curriculum suitable for all boys.

The reading of the article 'Cultural Education, a guide for Governors' published by the Arts Council (2016, 3) was also relevant specially when it clearly stated that 'many of our museums and galleries are envied around the world along with our visual arts, music, theatre, film, dance and fashion. It's not just the artists, designers, actors, writers, musicians, choreographers that make our cultural life so vibrant, it's everyone in supporting roles too that keep the creative industries growing and innovating at a world-class rate'.

The UK's creative industries are now worth £84.1 billion per year to the UK economy. It employs 1.8 million people and the sector is growing at a faster rate than any other industry sector (DCMS, 2016). I felt it vital to share this level of information with my colleagues and the students. Art in many schools is loosing its value due to the pressure of league tables and core subjects. Students need to be equipped with facts to help them make personal career decisions and not those imposed on them by our current political landscape or schools agendas.

So what might the job market look like in 2030? There are suggestions that the creative industries will need a further 1 million workers (Nesta, 2015). A survey conducted by IBM of 1,500 CEOs from 60 countries and 33 industries identifies creativity as the 'most crucial factor for future success' (IBM Survey 2010). Business leaders want people who are: flexible, motivated, creative, individual, problem solvers' Arts Council (2016, 3). This information needs to be used to determine more time spent in lessons taking about the importance of the creative industries. At a time where teachers and schools are being side tracked by the Ebacc national agenda - it is vital for teachers working in the arts to emphasis the issues stated above.

Etherington (2013) writes that boys see art as a feminine subject. Nationally boys are taught predominantly by women in art. Therefore, do we feminise the subject? Do the boys in my group think art is a feminine subject? I wasn't sure this was the case for my group. My group wasn't made up of predominantly girls it was equal across boys and girls. However the whole year 10 cohort for art and design stands at boys 27, girls 43. Etherington (2013) also suggests that following some kind of 'boy-friendly pedagogy' was not a solution but more teaching on an individual and inclusive model would be recommended.   The author questions the value of 'boy-friendly pedagogy' whereas Coles (2012) believes it has value. I feel a combination of 'boy-friendly pedagogy' (for the boys and girls) and teaching on a more individual scale for GCSE was the way forward with my group. I could see this taking shape in developing the SOW. Students were going to work more directly on individual ideas and be given one to one tutorials to support their progress.

Hallam (2009, 1) describes how the importance of h/w fluctuates depending on the Government agenda and the political/educational landscape. The author believes this runs on a cycle. Schools raise the expectations of h/w in line with the political agenda. Parents and professionals begin to campaign about students' well being and the cycle calms down again. GCSE art homework has always been a vital part of the course work. Classroom time is simply not enough to cover all the assessment objectives widely showing breadth and depth.   H/w complements the classwork, allowing students to generate prep' studies to support final pieces that are made in the lesson. I have never experienced a cycle as described by Hallam (2009) at Thomas Tallis or within the art department. According to Hallam evidence suggests that h/w which includes preparation, practise

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or both 'is more effective than h/w concerned with current curriculum content'. This is the case in art GCSE h/w. Students are encouraged to practise a technique that they may well be working on in their final piece. However it is also essential for them to make critical and contextual links which we don't always have time for in the classroom. This seems to turn off a lot of students especially boys.

Hallam (2009) believes that less able students should get more homework set than more able peers as they should be 'catching up'. I don't agree with this in the case of any student. The expectations of attempting and completing h/w should reflect the school's' policy about h/w and the h/w ethos modelled across the school. By giving more h/w to weaker students we are in essence making them feel 'different' compared to others. This would surely impact negatively on their self esteem. The fact they are 'weaker' means they would surely need 'extra' support to do their h/w which may well move away from them being or becoming independent learners.

H/w needs to be a balance between ability and challenge. There seems to be no conclusive evidence to suggest h/w develops 'responsibility and independence' says Hallam (2009, 4). She does pose the question around how we bridge the gap between students who complete h/w to please their parents and teachers and those who complete h/w to gain satisfaction for themselves regardless of pleasing others. Would it possible to do this by allowing students to choose their own h/w or select from a choice of h/w activities?

Younger and Warrington (2007, 236) place the point that 'the sex difference is only part of the issue. Ethnicity and social class is part of the problem too'. Clark et al (2005) also back this by saying 'When attempting to summarise these trends (male underachievement in school), factors such as lack of male role models in schools, cultural attitudes about gender expectations, disinterest in subject matter, lack of organisation and planning for the future, learning styles, and the need for physical space and movement seem to be recurring themes'. All these issues have been presented to me as an art teacher. Of course not every boy fails and of course not all of those who do fail because of one of these factors. However these were the points I needed to think about when planning my action and when I was refining my scheme of work.

3 | ACTION

My strategy was to refine and develop an existing scheme of work. This scheme of work was to engage the boys and raise motivation. Motivation was largely monitored around the students' want and enthusiasm to complete h/w linking to the scheme of work and make personalised pieces of work in the lesson. My strategy around creating a careers board was to support the boys' knowledge about careers within the creative industries and hence have a positive impact on their motivation around the subject.

1: Scheme of work 'Collections and Narratives'
I have been teaching a project called 'Collections and Narratives' for a few years now. I looked at the scheme of work and began adapting it further. I needed to offer more choice to the students regarding what materials and processes they were going to use (this again refers to the assessment objectives). I suggested all students could work with 3D materials, many choose clay. I encouraged them to work standing giving themselves more physical space - in general the boys naturally did this.

I produced a range of literature support sheets to help with students' written responses. I ensured these resources were available on our class blog. I designed the scheme of work so that all students could generate their own, personal ideas right from the start. As the title of the scheme of work 'Collections and Narratives' may suggest, it is linked to stories. I asked the students to begin to write a story with illustrations about a memory, a holiday, a family event, a special person etc. Being aware that boys don't always like 'traditional' drawing I generated a range of resources to support the group to record their visual ideas linking to their narrative in many different ways, mark making to sounds, making textures in clay and documenting smells. They also drew in a less conventional way creating tape drawings on the classroom windows and tabletops.
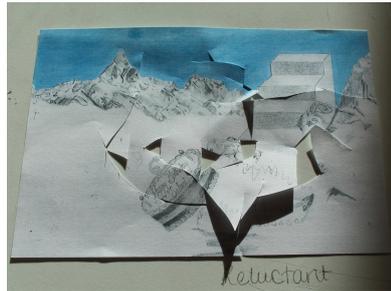
Figs. 1 to 4 (left to right)

1 - tape drawings
2 - disrupted postcard exploring emotions
3 - Textual clay piece reflecting on time emotions
4 - Mark making to sounds

All pieces were made responding to the students' narrative

Students were encouraged to select artists that they thought linked to their ideas and prep work. This gave them more ownership about researching independently. Here I begun to facilitate support through tutorials enabling student to design and create final pieces. The final pieces have shown a variety of techniques such as paper, mixed media, clay, painting, printing, construction and collage. All final pieces were supported by a range of prep work exploring a variety of materials and processes.

Some prep work to support the final pieces.

All sketchbook pages shown here link to developing ideas and exploring a range of materials and techniques.
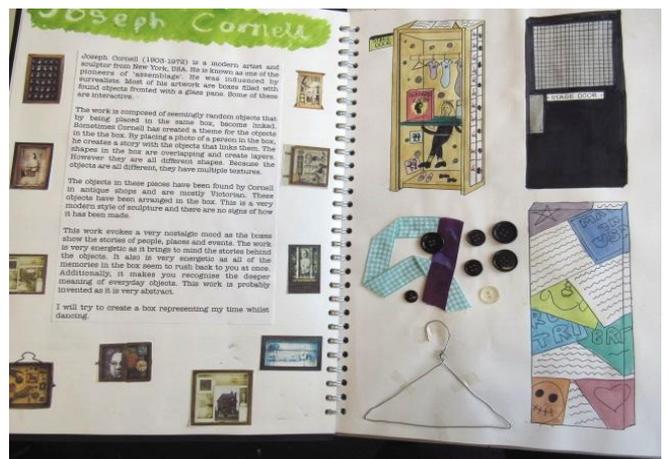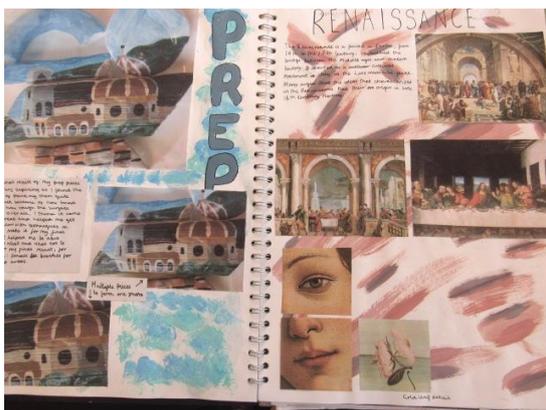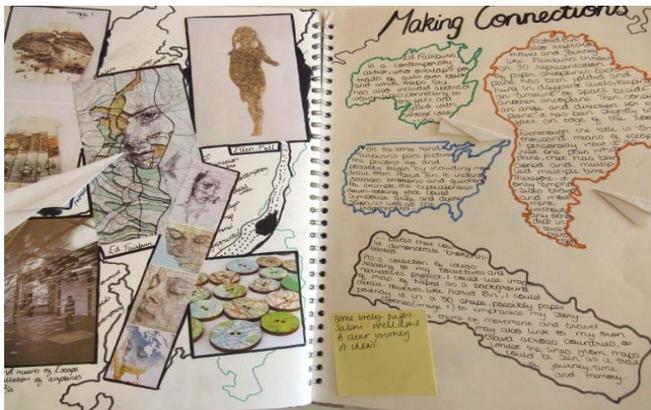

Fig. 5 - Some final pieces and final pieces in progress.

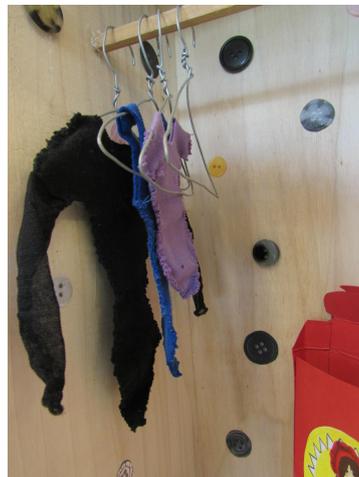All students are refining ideas and making personal responses.

Fig. 6 - Some final pieces and final pieces in progress.

Fig. 7 - Some final pieces and final pieces in progress.

I also surveyed the entire group prior to the action. The surveys and action took place about 6 weeks into this scheme of work. I developed two surveys. I divided the questions into different categories, homework, careers and motivation. The surveys were anonymous apart from students identifying their gender.

Out of the 8 boys 25% thought art was a feminine subject, 12.5% thought it was masculine, 62.5% thought it was neither. This went against the general feeling about how boys see art. As the scheme of work was based on more personal ideas perhaps the boys were generating ideas around their preferences and interests and therefore didn't see any gender attached to it. 25% of the boys thought the art course had more h/w compared to other subjects, 12.5% thoughtless, 12.5% thought it was equal. This didn't surprise me, art h/w is set very regularly due to it being a coursework subject.

75% of the boys said they hadn't been taught about careers in art. 25% said they had. I was aware this hadn't been part of the department teaching therefore this was no surprise. 50% of the boys felt motivated in art. 50% didn't feel motivated. This pleased me, I thought students seeing themselves being unmotivated would be higher.

50% of the boys said they enjoyed working in sketchbooks. 50% said they didn't. This goes against general trends about boys' relationships with their sketchbooks. In the previous SOW we covered about three weeks of sketchbook work in the lesson. Here I showed them how valuable working in

a sketchbook is whilst working on final pieces. We took time to look at page layouts and how sketchbooks can be visually exciting - enhancing grades.

62.5% of the boys said they liked working in 2D. 25% said they liked working in 3D. 12.5% liked working in both. Again, this went against general opinions about boys preferring 3D. In the audio interview the majority of the four boys wanted to 'do' and 'learn' more about drawing.

My conclusion regarding the data showed that generally the boys went against some trends such as most of the boys thought art was neither masculine nor feminine. Half the boys said they enjoyed working in sketchbook, perceived ideas around this suggest they don't. The majority of the boys enjoyed working in 2D, again this bucks the trend that says boys prefer working in 3D. The most obvious findings were that most for the boys thought GCSE art had more h/w and that they hadn't received any or much advice on careers.

2: Homework
For a six-week period they could choose to do homework (h/w) or not. This was slightly controversial and had a moral implication to it. I called all the parents of the four boys and spoke to them about my plans. All parents agreed. I reassured them that a six-week opting out period of h/w wouldn't be detrimental to their overall grade.
Student L completed 5 out of 6
Student M completed 1 out of 6
Student LR completed 6 out of the 6
Student D completed 0 out of 6
I then calculated this in the context of how much h/w these students would complete over the 39 weeks of the academic year.
Student L would have completed 32.5 - predicted grade spring term C1
Student M would have completed 6.5 - predicted grade spring term D2
Student LR would have completed 39 - predicted grade spring term C2
Student D would have competed 0 - predicted grade spring term C2

If this was the case the two students that would have completed 6.5 or 0 h/w over the year would have struggled to make the necessary progressed required to gain an A*-C. If they had continued this pattern over the exam unit (40% of the overall grade) and taking in their spring term predicted grade, these students would gain grades more likely to be around an E. The data concludes that successfully completed h/w is vital in gaining a good A*-C grade.
A range of quotes were documented from the four boys during an interview about h/w. Their responses when asked about the role of h/w on the course was as followed.

'Very important, h/w always links to the classwork'
'If you don't do the h/w you are set back'
'H/w is just as important as classwork'
'I don't spend a lot of time on h/w'
'I have realise if I put more effort in I will get a higher grade. But I am not that interested, I prefer maths and geography'
'It takes too much time to get to the highest quality. So many things to learn at once'

3: Motivation rates

Each week over a period of 9 lessons the boys were asked to rate their motivation. During this time these students were designing and making their final pieces.

0 - no motivation up to 10 being very motivated.

Student L - motivated over 5 - 89% of the time

Student M - motivated over 5 - 45% of the time
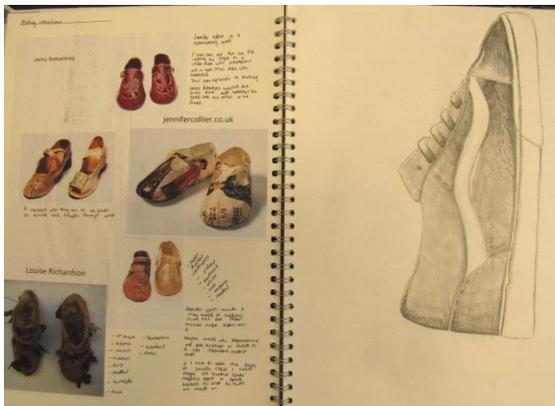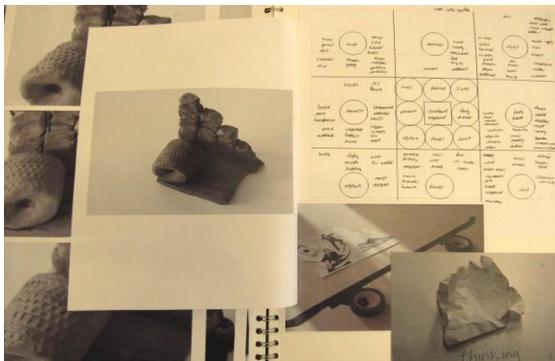
Student LR - motivated over 5 - 100% of the time - this student completed all h/w

Student D - motivated over 5 - 78% of the time
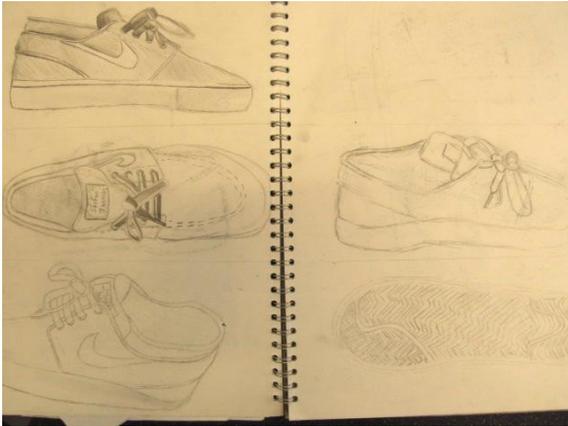

Fig. 8 – Students' art work.

Student L

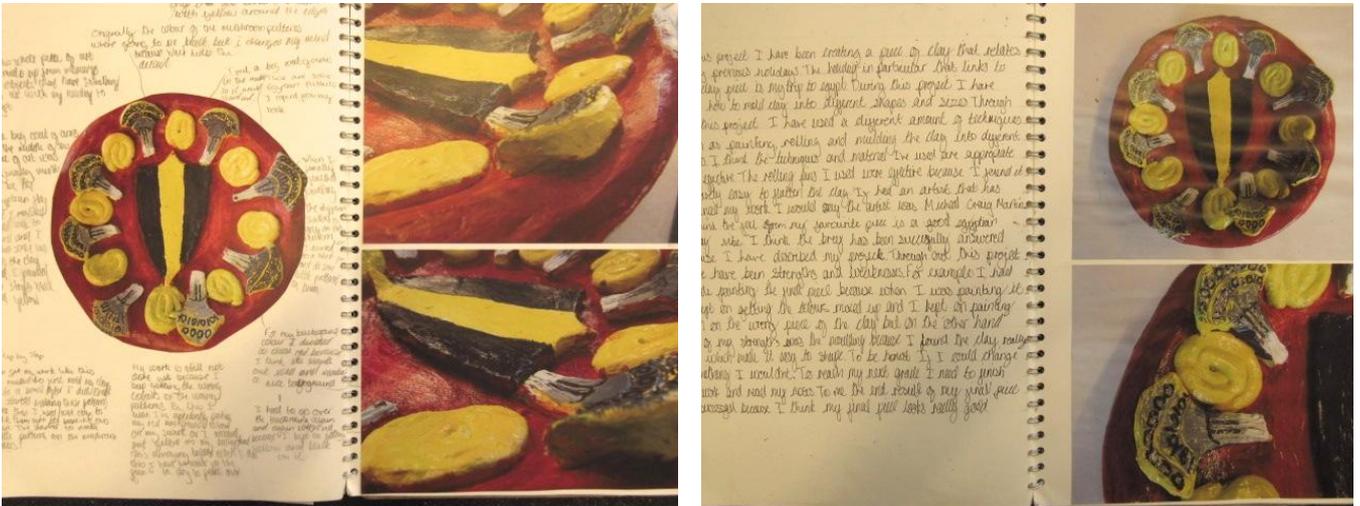Fig. 9 - Work developed by Student L

Student M

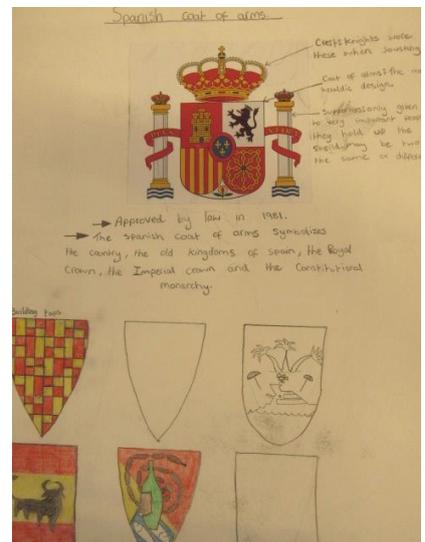Fig. 10 - Work developed by Student M.

Student LR

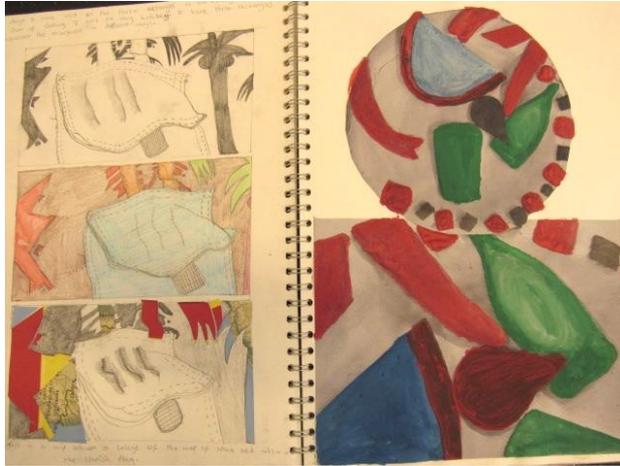Fig. 11 - Work developed by Student LR.

Student D

Fig. 12 - Work developed by Student D.

The four boys I observed and surveyed were of similar ability but they had quite different attitudes and mindset towards the subject. Though all four boys expressed slightly different responses when told they could opt out of art h/w for six weeks they said predictable things in their final questionnaires.

The boys that did not choose to do the h/w or did very little recognised they had prevented themselves to make connections with others' work, to develop ideas and skills and they were prevented from working out possible problems when making their final pieces. The two boys that completed all or the majority of the h/w said they had made connections, developed ideas and skills and that by doing the h/w it had helped them work out possible problems when making their final pieces. Two of the more unmotivated boys that did the least or none of the h/w worked quite similarly creating final pieces that were alike even though they were encouraged and given the same opportunities to work how they wanted to. Their ideas were quite straightforward from the beginning and they struggled to move these ideas forward. The other two were much more adventurous with their starting ideas and more confident in making more independent choices about materials and outcomes. The results regarding the way H/w supported their classwork, varied depending on what they were doing. So the majority of h/w was individually set and posted on the class blog. H/w was set during the lesson when I gave each student in the group a one to one tutorial. We negotiated the h/w around what would be best to develop more ideas, to generate a range of processes, to refine designs and to plan final pieces.

4| EVALUATION OF THE ACTION

Motivation regarding using sketchbooks

I surveyed the whole group about whether they enjoyed working in their sketchbook or not. I chose to ask this as a question as the group had been working for a year and a half with sketchbooks and I felt they had enough experience to reflect on whether they liked sketchbook work or not.

50% of the boys liked working in a sketchbook. Research performed by Coles (2012) and Ofsted (2009) suggests most boys don't like working in a sketchbook. For those who prefer not to work in sketchbooks we have now begun to allow students to mount their units of work on A1 mount boards to show their journey of ideas. This has taken the pressure off sketchbook work. Some of my current year 11 cohort (boys and girls) did work this way. The students that were struggling with sketchbook work and displayed their book work on the mount boards (see example below) all gained C grades (August 2016 results). These students had been predicted either a D or E prior to this.

Fig. 13 - Work developed by the students.

Motivation working in 2D or 3D

I surveyed the whole group with the question around their preferences working in 2D, 3D or both. I felt a question in a survey was appropriate as all students on the course and throughout key stage 3 had had the opportunity to work in 2D and 3D. I felt they could reflect on their experiences making art to respond to this question. More of the boys preferred working in 2D. Research suggests boys prefer working in 3D according to Coles (2012) and Ofsted (2009). I feel students know what they like in art and we have to listen to them. If they have a keen interest in learning how to master observational drawing for example we need to allow them to explore this. Just because they are boys it doesn't mean they will automatically want to work with clay or other 3D materials. This also reinforces the notion that at GCSE level we really do need to know our individual students.

Careers

Again this was a question aimed at the whole group and also to parents in the parents' survey. The question asks for a response to whether they felt they had been taught about careers - from the parents' question it was based on whether they themselves had knowledge about careers in creative industries. I also asked them to list any creative industry careers they could think of. Most of the students said they have not been taught about this. Though some students could list creative careers, parents listed the most. One student within the group did comment that his parents had discussed creative industries careers with him.

Students who are unfamiliar with the amount of career options and pathways into creative industries will no doubt believe that jobs within the arts are limited. Research and evidence such as "Cultural Education for Governors' published by the Arts Council shows that the creative industries are growing massively every year. As art educators we have a responsibility to engage our students with this information. I created a careers board in my room with supporting booklets which I have left out for students look at. I am now developing sections of SOW across the key stages where creative industries careers will be part of learning. Also the plan is to invite creative industry people in to talk to groups about what they do. For example I have now arranged for a local graphic designer who runs their own business and a parent of a student who is an illustrator to visit our 6th form art students to talk to them about their careers. I am now regularly updating my teaching blogs with useful links such as **http://creativejourneyuk.org/** to help promote the importance of the creative industries.

Fig. 14 - Board with information about careers.

Fig. 15 - Board with supporting booklets

Homework and making it valuable.

I surveyed the whole group with a question asking the students to compare the amount of h/w they received from art compared with other subjects. I also asked them if they thought the quality of the h/w impacted the artwork they made in lessons. I allowed the boys in the sample group to choose to do the h/w or not. I felt allowing them to choose to do the art h/w or not would encourage the boys in the sample group to take some ownership and responsibility about the choices they were making. It also allowed me to reflect on the type of h/w I was setting and what was appealing to them and what wasn't. One boy was clear in one part of his feedback saying the h/w didn't link to the classwork hence he didn't do it.

Most of the boys surveyed agreed that h/w had an impact on the quality of artwork done in the lesson. 50% of the boys in the sample did all or most of the six-week h/w set. This may compliment Professor Susan Hallam's point as she describes how the importance of h/w 'fluctuates depending on the Government agenda and the political/educational landscape'. It may well be that currently we (students, parents and teachers) are engulfed in the pressures of performance with regard to exam results and as a consequence students are seeing the worth in h/w and can recognise the impact it has for lessons. However I recognise the option for the sample boys to opt out of doing the h/w may not be conclusive evidence as they were aware that missing the entire six weeks worth would not have a detrimental impact on their grade. I did then convert their h/w completed figures over the academic year to validate the point in doing this part of the action.

The value of homework has to be modelled across the school not just in certain departments. GCSE art relies on homework to boost and enhance the work made in lessons. The very nature of the subject means the subject takes time. Some would argue we need more time in lessons to cover the course. Failing to complete quality homework over a sustained amount of time would have a detrimental effect on a student's overall grade. As art teachers we need to make sure relevant h/w is being set and feedback is useful. The two boys that did none or very little h/w over the six week period realised the value of it by the end of the cycle.

5 | CONCLUSION

I conclude that boys (and girls) are motivated by how much they enjoy the subject and how much they value it compared to other subjects they are studying. They are motivated by choice of materials and outcomes. Many enjoy the freedom of open-ended personal ideas and some like more teacher led approaches tackling more traditional skills within making art. As art teachers we should be able to adapt our teaching to ensure both these ways of learning and developing as art students and artists are accessible to all students.

Modelling how to work in sketchbooks within lessons helps motivation rather than students simply seeing their sketchbook as something they do their h/w in. Using display boards to mount pages from sketchbooks has a huge positive impact on students' (particularly boys underperforming with sketchbook work) motivation and moral.

We must discuss and show the facts and figures regarding the creative industries at all levels within secondary education. Not doing this will hinder and misinform students making longer term plans about their future careers in the creative industries. Discussing careers gives the art subjects a respected and valued profile.

A strong and purposeful h/w policy must be supported by all teachers across the school. Students need to recognise from the beginning of the course that all h/w goes towards their final grade, it isn't simply a time wasting exercise. The level of h/w set on the course shouldn't put students off the subject it's about ensuring students value it.

From this action research I continue to believe that we must allow choice in this subject to help students work to their best potential. As a practitioner I will continue to work this way especially mainly with key stage 4 and 5 students. At key stage 3 this is more of a challenge as we are limited to only one hour a week, setting up this model of teaching requires time. Something that I have reminded myself of whilst doing this action research was we must have more confidence in our students - we must allow them to make choices and decisions that may not always be the right ones - if they fail with one process and create undeveloped work and ideas, this should be used to allow them to reflect and refine.

As art teachers it is often very easy to be more 'teacher led' as we may feel more in control with the students outcomes and hence more control over exam results. Elements of creativity area about making mistakes - 'happy accidents' and trying again. Though I have never been ignorant or dismissive about talking creative industries in the classroom I have become more aware about the impact of my subject beyond school and art college. I see the worth of vocational education that needs to be in our teaching. I will continue to emphasise, show and discuss the importance to my students and all those who enter our department. I will identify the value of having some knowledge about the options within the creative industries and where art qualifications can take them.

I have enjoyed the action research cycle, I feel it has made me much more reflective and aware of some of my strengths and weaknesses as an art teacher. It has remained me yet again how interesting teaching and learning about art is. It allows students to make sense of their world through a wide range of skills not just technically but through their emotions and their intelligence.

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On reflection if I was to do this action research again I would narrow down the amounts of elements I was exploring and questioning. Motivation, h/w and careers are all substantial parts of art teaching and learning. I feel these are all linked and underpinned by motivation - without motivation, h/w and career choices wouldn't happen. I think I was often analysing and observing too many strands in my practise. I would like to develop the area of creative industries further. I would like to work with a Btec art and design group and a fine art group and explore the different vocational experiences both course offer.

I think my findings within my action research were quite predictable. Thomas Tallis is a school that celebrates the arts and I knew my findings might not compliment some research. Some common traits found in male art students that contribute to them failing GCSE art were not obviously found in my art group. If I taught in a school that was less appreciative of the arts my findings might have been more obvious.

Action research has developed my ability to reflect as a teacher. The process has given me the tools to generate questions and find solution or confirm my assumptions about how I teach students. Working with the students on this level has allowed me to see further into how they think and feel about the subject. As a teacher I would like to continue to have more of an open dialogue with my students particularly at key stage 4 and 5 about how and why they are motivated and use these conversations to strengthen my skills as well as theirs.

Recommendations based on my experience

Motivation for boys in GCSE
- Allow students (not just boys) to develop personalised ideas allowing them to explore their own interests and what they value. This also avoids boys feeling art is a feminine subject - however this is not to say girls and boys would automatically generate work that was obviously made by a female or a male.
- Encourage them to record ideas in a range of ways - drawing for different purposes, using drawing to communicate a range of ideas. This supports risk taking and learning from mistakes.
- Support students to master traditional techniques if they want to. They will practise techniques if they can see a direct impact on their final pieces.
- Ensure they see the link between all stages of their prep' work. If they don't see the point motivation drops.
- Plan some literacy work in the lessons showing them best practise as to how to research artists. Use a range of resources to support their writing. The same old literacy sheet isn't going to hold their interest - give them a varied diet.
- Encourage them to listen to podcasts as well as more traditional ways of researching. Get them to discuss with each other what they have found out. Boys like to talk.
- Suggest they record themselves talking about different art work.
- Work with them cutting up their sketchbook and mount work on boards if that will enhance the quality of their work. A grubby unkempt sketchbook doesn't appeal to many people.

Homework

- Make sure h/w is personal and relevant to classwork.
- Talk to the student before h/w is set and negotiate what needs to be done.
- If students are working on personalised projects encourage them to set their own h/w.
- If the class work is more teacher led - give the students a few h/w activities to choose from. This could be differentiated to suit all learners.
- Look at the h/w every lesson it is handed in - give it importance.
- Formative feedback is valuable to boost confidence. Praise and give next steps.
- Set targets linking to the assessment objectives.
- Allow students to set their own targets.
- Do demonstrations in the lesson that may help h/w activities.
- Make the h/w challenging enough so that it will be just out of the comfort zone.
- Encourage students to show their h/w to others and discuss what they have done.

Careers

- Create a careers board with information and visual references promoting career opportunities.
- Find useful links to show students about the value of the creative industries.
- Embed careers and creative vocations into SOW.
- Invite people from creative industries to talk to students.
- Talk to the students about their future plans.
- Have past students come and talk to art groups about the experiences they have had at art college and in creative industries.

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5| TRANSFERENCE OF READING FROM SCHOOL TO HOME

Alderwood
Primary School

Toni Archer
Alderwood Primary School

1| INTRODUCTION

I am currently employed as a Learning Support Assistant at Alderwood Primary School in Eltham and I have been there for the past 18 months. Before this, I worked as an Early Years Practitioner within the school's Children's Centre Childcare Provision. I have worked within early years since qualifying in 2005, with both the CACHE Diploma Level 3 in Early Years Education and the NVQ in Childcare Level 3.

Coming from an early year's background, I have always recognized the importance of early print and reading with children to increase their self-confidence and to encourage pre-writing skills and phonics knowledge. Being an LSA within a busy Year 3 class, one of my daily responsibilities includes sitting with the children to review their reading records which they use at home to record what they have been reading. The school's reading records are set out clearly, with helpful pointers and tips for parents and carers to aid the school in adequately supporting the children in what the parents feel they may need help with regarding reading. It was during the task that I noted that a proportion of the class were not engaging in reading at home in ways we would have liked, leading me to question why this was. Parents are busy people too, many need to work long hours to make ends meet and there are some who need more support and guidance about what they can do at home with their children to support their reading. The aim of this investigation was to empower children to believe and experience reading for pleasure in school in the hope that this pleasure will be transferred by them into the home and so see an impact upon them and their families.

2| THE ACTION

The core aims of investigations based around an action research approach is for an individual to identify an area of improvement they see as needed, and for the individual to carry out subsequent critical thinking and a slow reflection upon the changes made to the said area and so evaluate if the changes have caused any impact.

In planning my investigation, I wished to look at encouraging reading for pleasure in the home, and how at school we could implement measures to support children to recognize the pleasures involved. We felt that reading at home will be vital in encouraging all children to enjoy reading and so help them develop the skills needed to read fluently too. What could I do as a hands-on supportive LSA for these children to improve this for them?

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I wanted to become better informed in this area of teaching and learning, I chose to do a number of theoretical and topical research readings. From reading Merisuo-Storm (2006), it was evident that there is a strong link between the types of reading materials available within school and the amount of independent reading completed by children, especially boys at home and elsewhere. There was a belief that there was sometimes all round embarrassment for some children in admitting to enjoy reading, and that many schools struggle to accommodate and provide reading materials desired by all the children. So for me and my investigation, evaluating and looking at what types of books and reading materials we have to ensure we provide a literacy rich environment is important, including catering for what boys wanted. Worthy et al (1999) also believed in this division between girls and boys and the willingness to read being related to the types of literature available within schools. So again, for both the groups that I was teaching and the school: do we foster children's interests concerning literacy and would this help in transferring reading from pleasure from school to home?

The report "Reading for Pleasure: What we Know Works" by the Centre for Literacy in Primary Education (2014) was extremely useful as it gave clear information as to what had already been tried and tested in many schools. It led me to evaluate what we value in our school, and how families of the children under our care may not share the same reading ideals and practices.

From reading the research already conducted, I was particularly interested in our "reluctant readers", those who did not seem to read regularly at home and appeared not to enjoy reading in school. I worked daily with this group of children to encourage reading for pleasure, to become fully immersed within a text that may otherwise be out of reach to them be it from lack of opportunity to read such a book because of its lack of availability in the home. By becoming immersed in a text from me reading to them, with the pressure released from them of having to read the text themselves and being in such a relaxed atmosphere, I wanted to encourage a pleasure for reading. I further modified my practice to include small craft workshops centered on the text with the sample group to encourage the investment of interest in characters, themes and the story in the hope it improved the likelihood of the reluctant readers reading for pleasure.

I was aware that I was no longer just a Teaching Support Assistant but I was now becoming an investigator. I ensured that the teacher and Headteacher were aware of my work and approved all my actions. Although many of my actions were part of the normal practice of school life, some of what I was doing involved collecting different forms of data and discussing it with colleagues from other schools doing their own projects. This is why I asked for the assent of the children involved and talked to them about what I was doing and how any data collected from them would always be kept anonymous to those outside of the school. They were all keen to help me, but I made it clear that if they changed their minds that would be fine.

I wanted to evaluate what was already in place in school in terms of reading for pleasure. Perhaps what is already there could be modified to seek improvements in reading for pleasure in the home from children across the school. It is for this reason that I also sought to renovate the school library into a haven, with easily accessible, well-displayed and catalogued books for all. The children were given timetabled regular slots to access this and read freely, to enjoy a choice of texts otherwise limited to them in their classroom book areas. The school library had no regular adult to supervise it, with no filing system, defined fiction and non-fiction sections and limited seating areas suitable for children above KS1. Providing children with a more diverse range of books to use in their homes may offer increased levels of reading for pleasure at home.

With any form of investigation, observations are a vital part in evidence gathering and in measuring the results of any intervention put in place for their success. With the group of children, I discussed reading with the children, alongside the reading group activities to gauge their enjoyment in such activities and to gather suggestions from them on how this can be improved and changed. I also conducted regular conversations with my class teacher, English subject leader and Head of School regarding how the project was taking shape. Reflection was to be continual, always looking at what works best for the sample group, class and individuals and reasoning as to why this was.

3| EVALUATION OF THE ACTION

A Small Survey

I believed it was important to also look at the class as a whole, especially when comparing the research I had previously read concluding that boys and girls can read differently, often choosing their preferred texts according to different criteria. To do this I felt it was best to conduct a simple questionnaire, giving multiple choice options and small open questions so each child was able to access the task regardless of their ability. The aim of this was to give an open and honest opinion about reading at home, the types of materials they enjoyed reading and what they felt helped them to read at home. Could we offer any of these things suggested by the children themselves that could make a positive impact upon their home reading?

Results for this could be easily collated into measurable data:

1. Preferred choice of text to read, non-gender specific.

Children's choice of reading materials
Whole Class data collection sample 2016

Poetry : 2 children
Comics : 3 children
Non fiction : 2 children
Newspapers : 2 children
Use of ICT : 1 children
Fiction : 9 children

Comics   Non fiction   Newspapers   Use of ICT   Fiction   Poetry
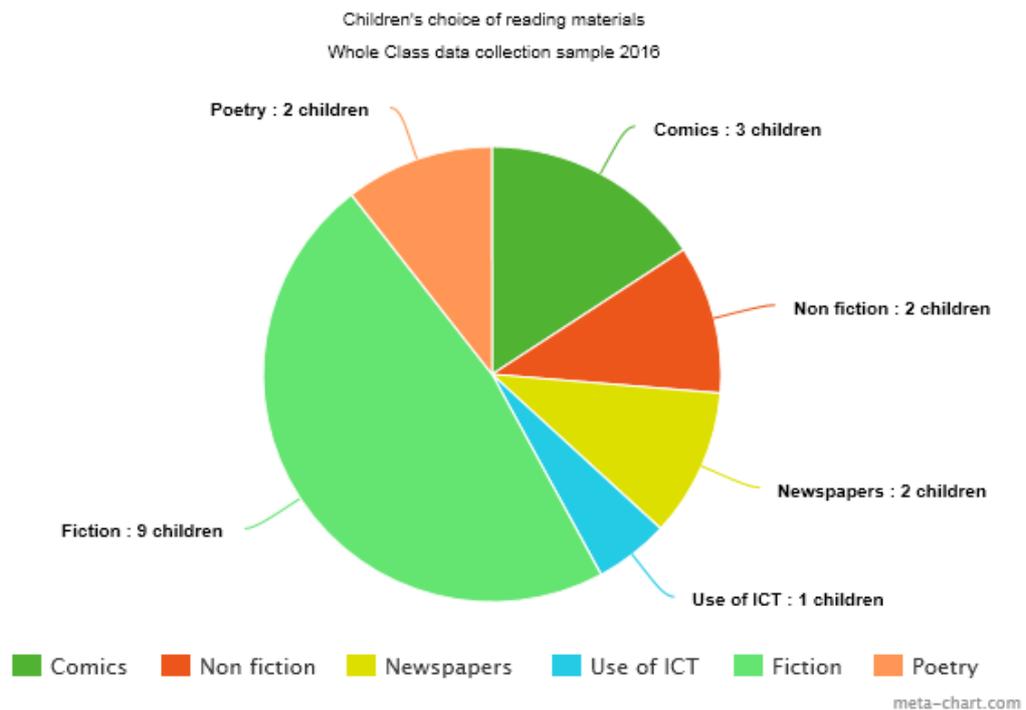
meta-chart.com

Fig.1 – School library.

4| REFLECTION AND IMPACTS ON PRACTICE

Upon starting my investigation, I was of the opinion that I could change the world, by engaging all children in books and creating beautiful intimate spaces for them to read.

My investigation looked for ways to highlight the importance of reading for pleasure and to encourage children to begin to understand that reading can bring them pleasure too. I hoped that by raising the profile in school it may encourage more reading for pleasure at home.

The investigation convinced me that more needs to be done:

1. Creating a reading guide for parents that describes what they can be done at home with their children. Making them understand that it is not always about reading lengthy texts and books, it can be as simple as instructions, comics and signs whilst out.
2. Continuing the Reading for Pleasure scheme in class and to the whole school. To operate on a termly basis with at first reluctant readers, but hopefully with all children over the course of the year to empower them to love texts and create the desire to want to read away from school.
3. Possibly opening our school library with an official borrowing scheme, providing children access to a range of literature that they could share in the home that they would otherwise not have access to. This would need strict staff supervisions, consistent monitoring and must be parent approved and supported.

After this Project, I have come to simple conclusions… read to a child and they will enjoy a story. To enjoy a story is to have a desire to read and know more. Moreover, to have this empowers a child to become an independent reader.

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6| *TRY-CYCLE*: AN INVESTIGATION IN TO THE ACTIVE CYCLING ABILITY OF CHILDREN WITH COMPLEX NEURO-DISABILITY

Claire Higgins
Willow Dene School/ Oxleas NHS Foundation Trust

1| INTRODUCTION

I am the Lead Physiotherapist at Willow Dene School and am employed by Oxleas NHS Foundation Trust to deliver a service to children with physical needs that are above and beyond the scope of the curriculum. Willow Dene is Greenwich borough's Primary provision for children with identified special needs and it currently has a population of 188 students, 51 of whom have an open referral on the Physiotherapy caseload.

Our service broadly offers provision to the school through a 3 tier approach:
Universal – collaborative working with the Education team that is seen to benefit *all* children on the school role in some way through involvement in school planning, training, shaping of the environment etc.
Specialist - Intervention required to support children more closely through direct joint work with the class team, Assessment/advice and delivery of class based therapy programmes
Targeted - Children who require individual, tailored episodes of care (blocks or open-ended) to ensure they are not at clinical risk of harm e.g. assessment/monitoring of postural deformity, prescription of equipment, acute episodes of physical injury/pain/deterioration in mobility.

The Targeted aspect of our service would best be described as the area of work that only the Physiotherapy team are qualified to carry out. As modern practice has moved away from the 'expert model' of care and it is advocated that children benefit most from therapy that is woven through the fabric of their day, there remains some areas of responsibility that *need* to sit within physiotherapy to specifically address and reduce clinical risk for our children.

The financial and political landscape has changed visibly in the last ten years and the local Special needs population continues to rise. This has contributed to demand/capacity issues for health services and the challenge of continuing to deliver high quality, effective intervention.

In order to ensure that we have the necessary resources to deliver Targeted intervention, we are faced with the constantly evolving challenge of ensuring that our Universal and Specialist services expand so that we can continue to support as many children as possible with their physical development.

The Willow Dene school team is very supportive and receptive to our partnership initiatives and are open to projects of a Universal and Specialist nature that will support their students. This

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collaborative partnership allows innovative thinking and projects are brought in to fruition with support from the school budget.

At the end of 2014, through one such project, a new piece of equipment was sourced for a young man to enable him to exercise his arms and legs.
The MotoMed bike allowed him to exercise from his wheelchair, with arm and leg trainer functions that passively aided his cycling as required, but allowed him to actively join in with the pedalling as he was able.

After the bike was purchased for the school it was agreed that the school team would staff activity sessions for children who would potentially benefit from cycling and there would be overarching support from the Physiotherapy team (Specialist intervention). This was the advent of the *'Try-cycle'* project and is the focus of this action research. Observing children over time it became evident that there were individual examples of children being able to *actively* pedal the static cycle that we did not anticipate would have had the capacity to do so. This raised the question how many other children may be able to participate as **active** partners in their physical exercise and what would this look like?

2| Concerns:

Of particular interest was our cohort of children with complex medical and physical disability who have no, or severely limited active independent mobility. They have a diagnosis of Cerebral Palsy (CP) and are fully reliant on adult support for all their activities of daily living.
Children with CP can be categorized using the Gross Motor Function Classification System (GMFCS) into five levels where level 1 is the highest mobility; *"child walks without restriction; limitations in more advanced gross motor skills"* to level 5; *" Self-mobility is severely limited even with the use of assistive technology"* (Palisano et al 1997).

Our children with a GMFCS 5 motor disorder are able to participate in a rich physical curriculum, but for the most part (almost exclusively for some children) movement is facilitated by the care and direction of an adult.   Voluntary, controlled movement is impaired by neurological and biomechanical dysfunction and their ability to move is directly related to the severity of their movement disorder.
Historically our intervention with children diagnosed with the most complex level motor disorders has focused on assessment of their posture; provision of equipment to ensure their comfort & ability to access learning; advice regarding passive movement activities and management of their discomfort.

The World Health Organisation (WHO) describes interventions of this nature within their 'International Classification of Function' (ICF) as pertaining to the child's 'Body Function and Structure'.
This is inherently different to intervention with children who have more independent movement as they are naturally more able to be active partners in their rehabilitation and this is cited in the ICF as 'Participation' led intervention.
When considering this broadly we can see that through the disadvantage of their disability children with a severe motor disorder are:

- Primarily affected by a **neurological** problem
- Secondarily affected by the **biomechanical changes** that occur in their body as a direct result of the primary problem (shortening of muscles, orthopaedic problems, complex postural deformity)
- And affected at a *Tertiary* level as they are deemed not to have the voluntary movement needed to exercise. *Participation* is not a concept that is widely advocated for this population as **there is not the expectation that they can be active**.

This leads to the statement of concern that children with complex disability are falling outside of the norms of public health promotion within the educational curriculum. The Department of Health (DOH 2011) recommend that children under 5 who are walking should be involved in at least 3 hours of daily activity and for children & young people between 5-18, they should carry out at least 60 minutes of moderate to vigorous intensity activity every day. All children should minimise the length of sedentary periods (DOH).

Children who are reliant on support from equipment for all of their day may not achieve *any* of this activity and are sedentary through their primary and secondary problems.

What does this then mean for their wider health, irrespective of disability, and can we demonstrate through case studies that children should be given more opportunity within the school day to participate in exercise in an attempt to combat the physical effects of immobility that are an additional concern for their well- being?

3 | THEORETICAL BACKGROUND INFORMING THE STUDY

There were key themes in the background literature search that were considered relevant to the study:

1. What is the impact of a sedentary lifestyle on the *general* population and can we use any of this information to formulate activity recommendations for our school population?
2. Are there any existing recommendations for daily activity for children with GMFCS level 4/5 motor disorders?
3. Are there any contraindications for children with a GMFCS level 4/5 motor disorder participating in exercise?
4. Are there any studies that specifically look at cycling in children with a GMFCS 4/5 level motor disorder and the impact that this has on their health and well- being.

1. The impact of a sedentary lifestyle

In 1994 the epidemiologist Jerry Morris described physical activity as the "best buy" in public health (Das and Horton 2016). This is directly linked to wider knowledge that Aerobic fitness is a strong indicator of mortality in adulthood (Verschuren et al 2009).

Aerobic exercise can be defined as, *"any physical activity that makes you sweat, causes you to breathe harder, and gets your heart beating faster than at rest. It strengthens your heart and lungs and trains your cardiovascular system to manage and deliver oxygen more quickly and efficiently throughout your body. Aerobic exercise uses your large muscle groups, is rhythmic in nature, and can be maintained continuously for at least 10 minutes"* (Ricketts 2016).

Children who have a motor disorder have a problem with their aerobic exercise potential from birth as they are unable to develop key 'Fundamental Movement Skills (FMS)'. These skills *should* form the basis of lifetime physical activity, but here they are impaired or absent (Capio et al 2012). Capio et al (2012) studied a group of children with a diagnosis of CP (movement disorder GMFCS Level 1-3) and compared them to a control group of typically developing children. Unsurprisingly,

using accelerometers worn on the hip they were able to demonstrate that children with CP were significantly less engaged in physical activity than their peers and that this was linked to less proficient FMS.

In 2012 The Lancet published its first series on physical activity worldwide, which showed, *"an estimated 5.3 million deaths per year are due to inactivity"* and they concluded that this, *"is as important a modifiable risk factor for chronic diseases as obesity and tobacco"* (Das and Horton 2016). As a follow on, the second series of linked research asked the question, *"if one is active enough, will this attenuate or even eliminate the detrimental effects of prolonged sitting?"* (Ekelund et al 2016). This is clearly of interest for the purposes of our trial as our children have no choice but to be sedentary. The idea that a certain amount of exercise may help towards bringing down the risks posed by immobility gives weight to the project itself.

From a large scale literature review of 8318 articles, 16 were eligible for inclusion. Studies were homogenised and comparisons were made between people engaging in physical activity or spending sedentary time at work/in front of the TV. In total 1005791 individuals were monitored in the paper for a period of 2-18.1 years. Mortality and morbidity eventualities were recorded for all subjects. Ekelund et al (2016) draw the conclusion that high levels of physical activity (equivalent to 60-75 min of moderate intensity physical activity per day) seemed to, *"eliminate the increased mortality risks associated with high total sitting time."* Although this is not necessarily an appropriate exercise goal for all of our population it brings forward 'Tertiary' disability as afore mentioned and confirms that our sedentary children need to be considered in this debate, as they cannot chose for themselves to engage in counter exercise. Keawutan et al (2014) conducted a specific literature search to explore the relationship between habitual activity and motor capacity in children with CP. Of specific interest was their focus on the correlation between GMFCS levels and participation in PE. They cited figures in children 7-17 years as:

% who participated in PE
- 94% GMFCS 1
- 93% GMFCS 2
- 86% in GMFCS 3
- 88% 4
- 52% 5

There was a direct correlation between functional mobility and participation, which mirrors the concern that we have about our more severely impaired children being sedentary.

Interestingly, they concluded from the search that the objective measures of habitual physical activity were more reliable than the subjective and in turn more subjective measures were used with the GMFCS 5 population. This would relate to the fact that this population of children have a global developmental delay and the components of more objective measures are more difficult to achieve as they can be unable to follow specific instructions or communicate their opinion for interpretation.

This was found to be a common theme through all the research and in a similar study of 116 children on capacity versus daily life mobility in CP, Smits et al (2010) commented that, *"there is good reason to omit children classified as GMFCS level V from the analysis because of difficulty in interpreting their motor performance and, consequently, the floor effect of the measure."*

Verschuren et al (2009) studied the relationship between physical fitness and gross motor capacity in children with CP and they only included children who were classified as GMFCS Level I and 2

(ambulatory). This illustrates a natural gap in what we can hope to know about our children and a theme of 'omission' from research data, general activity recommendations and health promotion is evident.

2. Existing recommendations for children with GMFCS 4 / 5 motor disorder

Exact recommendations for physical activity and exercise for children with a complex motor disorder could not be found. The most comprehensive reference to our population was found in the 'Guidelines for exercise testing and prescription' which has been compiled by the American College of Sports Medicine (2014).

A chapter dedicated to CP outlines the principles that can be extrapolated from other related knowledge but they acknowledge that information and investigation in this area is limited, *'focusing almost entirely on children and adolescents and involving primarily individuals with mild to moderate involvement (those who are ambulatory).'*

Consensus advice presented in the guidelines is taken as best practice as they are the most widely circulated set of guidelines used by professionals performing exercise testing/programs. They are based on research reviewed since 1975 and the guidelines are in their 9th edition. Key points relevant to the Trycycle project were:

- Medical clearance should be sought prior to starting
- Functional range of joint movement should be carried out prior to exercise
- Adaptive equipment with appropriate straps for safety, comfort and mechanical efficiency should be used
- Closed chain exercise (feet fixed) is best for complex movement disorders
- Start exercising with a minimal power output first
- Recumbent, stationary cycling is recommended as there is a minimal risk for injury
- Several short sessions, rather than one long one are better for high muscle tone
- Medical interventions such as Botox injections (a medication which decreases spasticity, may drastically affect participation in exercise).

A specific paper for exercise in children with chronic health conditions was identified but did not include CP (Philpott et al 2010). The article did summarise with the generalisation that the lack of specific guidelines for 'safe' physical activity participation definitely poses a barrier for instigating or increasing exercise for children who have a significant medical history.

A reference used to reason through this fear of risk was taken from Baraldi and Carraro's (2006) work. They describe the main exercise tests used for children with chronic lung disease, which may be one of the complex medical differential diagnosis that children with CP can present with. They cite starting exercise at a low speed, grade and progress gradually until children's heart rate was at 80-90% of the maximum heart rate, calculated as 220 minus the child's age in years.

3. Contraindications

Contraindications were sourced from the American College of Sports Medicine (2014) and have been detailed for information.

The advice pertains specifically to more rigorous exercise testing designed to assess how much exercise a person can tolerate; what is an appropriate programme to prescribe and to diagnose specific cardiac concerns when the heart is under stress. For the purpose of this project our

evaluation was simply to profile children's response to low level, gentle activity and therefore we would not be exercising at the level generally referenced throughout the book. However in the absence of any other known recommendations in this area the contraindications have been used for any of our children partaking in cycling at school to ensure that we have screened their medical suitability, alongside the baseline data collected by the school nursing team.

4. Any studies that specifically look at cycling in children with a GMFCS level motor disorder
Continuing previously noted trends, most of the research work on cycling for children with CP focused on ambulatory children. As cycling is a therapeutic intervention there was also a focus on how cycling could be optimised for this population and whether participation had a direct effect on other areas of function (e.g. walking).

Lauer et al (2008) commented that cycling had received 'little attention' in CP. Their study aimed to map how individual muscles performed during cycling and whether there was a significant difference between typical muscle and muscles affected by CP. They studied 10 children at GMFCS Level 3 & 4 and concluded that all muscles throughout the full cycle revolution had altered electromyographic characteristics compared to adolescents without a presenting motor disorder. The muscles demonstrated both inappropriate muscle activation and weakness. When applying this principle to the profiles of our GMFCS 4/5 children we could surmise that this is useful to be aware of, but that our focus is to enhance independent activity at a participation level, rather than focus at individual muscle level.

McRae at al (2009) case studied one ambulatory child with CP and their response to using Functional Electrical Stimulation (FES) to enhance cycling performance. They used a specially designed piece of equipment to combine cycling with muscle stimulation and concluded that this could be a feasible intervention if the technology could be sourced. They noted that stiffness was reduced at the end of the cycle. Although an interesting concept FES would not be suitable for our population as we would be unable to explain the muscle stimulation sensation (electric current used) and this may cause distress.

Chen et al (2012) describe cycling as providing *'massive and repetitive practice and progressive-resistance training of lower limb muscles'.* In the 28 ambulatory children with CP participating in their cycling programme (20 min/ 3 times per week for 12 weeks) they found there was an increase in muscle strength, but not motor function. This was another study that reinforced the low risk but potentially beneficial nature of cycling as an exercise.

Only one study was found that *directly* looked at cycling for our identified profile group. Williams and Poutney (2007) exposed 11 young people with a GMFCS Level 4/ 5 motor disorder to an active cycling programme. Their transferrable key messages were:
- A static bike provides a safe, effective means of exercise to a population with very limited opportunities for activity and should be considered for clinical practice
- Sessions should be kept short and manageable to fit an already demanding lifestyle.
- Heart rates of all participants stayed below the recommended maximum.
- Velocity dependant tone (spasm) was noted as a limiting factor.
- The less active participants in this study achieved improvements in a shorter time, supporting assertions that gains are greatest where muscle is weakest.

However, the participants were able to comprehend the instructions and translate these into actions, which is where our two profiles would differ. They used a mainstream exercise bike that was adapted to support the children. In the Try-cycle programme we use a specialised bike that is

sophisticated enough to aid children who may not be able to follow verbal instruction but can respond to the passive cycling stimulus. This opens up the opportunity to a further population of children with the same presenting motor disorder.

4| THE ACTION

In its existing form the Try-cycle programme was running as an informal joint initiative. We had been allocated half a day of an LSA's time to staff the cycle sessions as part of the student's school timetable. To be able to develop the programme and expand the experience for investigation the first action was to increase the staffing for the project. Tracy Friend was appointed as Education lead for the programme and was allocated two days to manage the project within the cycling timetable for the rest of the school.

Children were cycling when they were able, against the competing demands of the curriculum and their routines were not consistent enough to provide a robust profile of their ability.
Eight children were therefore identified as key trial participants to form the basis of individual case studies. For cross comparison the children were selected on the basis of their primary diagnosis of CP.CP describes a group of disorders of the development of movement and posture, causing activity limitations that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain (Bax et al 2005). The children were also further categorised by functional ability, with their motor disorder presenting at GMFCS Level 4 or 5.

The offer of cycling was already an existing feature of our school provision and we were therefore advised that the project did not require ethical approval, based on the premise that the work was 'Service Evaluation' as oppose to research. The project was formally registered with Oxleas NHS Foundation Trust Quality and Audit board and specific consent was gained from parents of the children being profiled.
The school had 2 Motomed specialist cycles and these were used in the trial with the aim of each student achieving a minimum of one consistent weekly cycle session. This programme was based on 2 factors:
a) The 'unknown';
Although we have the aspiration of helping our children to achieve a tailored version of the DOH guidelines for exercise participation, we were not at a stage to fully commit to whether this was felt to be appropriate or safe. We were unsure of exactly how cycling was impacting the children and needed to continue profiling their response to cycling as an 'experience' rather than moving to a complete exercise programme at this stage.
b) The experience of the required staffing for each cycle meant that any more than a weekly session was deemed to not be realistic within the current resources. Children needed to be brought from class, assessed for medical fitness, sometimes transferred from one chair to another to be able to cycle and the bike adjusted for size, which impacted on how many sessions could be timetabled.
Baseline medical assessment was carried out by our school nursing team so that the children's resting status was known for comparison during and post exercise. Consent from the Community Paediatric team was also gained for each child to declare that there were no known medical contraindications for them participating in cycling as an activity.

Two separate data sets were collected for each child, during each cycle;
1. **An analysis from the bike's computer** that recorded-
    - Speed
    - Distance

- total duration of the cycle (in minutes)
- percentage of cycle that was active or passive (in minutes)
- muscle tone at the beginning/end of cycle (how stiff the child's muscles are)
- The number of spasms a child had (how their muscles responded to velocity)

These criteria were deemed to provide a full profile of the child's ability and were considered to be the parameters that may show change over time if a learning response was evident.

Muscle spasms were a particularly important record for each cycle as they demonstrated how the child's motor disorder responded to the activity of cycling. Spasticity is defined as *"increased, involuntary, velocity-dependent muscle tone that causes resistance to movement"* (Medscape 2016). As such we could conclude that the more spasms the child experienced during cycling the greater degree of spasticity was present.

The bike is designed to detect and alleviate spasm and a record of spasm alone was not considered a reason to terminate the cycle. On detection of sudden resistance the bike would slow and reverse direction, which eased out the stiffness. Passive speeds were kept low, as spasticity is velocity dependent, and children were monitored for their known expressions of discomfort.

Sessions were stopped if a child breached more than 30 triggers and/or if they communicated any known signs of discomfort. This figure was chosen so that we could profile children's response longitudinally and observe if there was any reduction of spasm over time as children become familiar with the exercise or progressed from passive to active cycling.

2. **A capture of Heart rate and Oxygen saturations** pre, mid and post cycle using a pulsed oximeter.

These 2 clinical measures would indicate both an expected response to exercise (steady increased heart rate) and would also monitor the child for any signs of an adverse reaction to exercise (e.g. a drop in oxygen saturation, significant drop in heart rate).

Heart rate can be used to evaluate response to exercise and there is a consensus that 220 beats per minute, minus a person's age is the maximum heart rate (HR max) that they can safely achieve during vigorous exercise (ACSM 2014). On wider review of Paediatric exercise papers there are suggestions that the figure of 220bpm needs to be reduced to be accurate and safe for children.

Mahon et al (2010) concluded after their study that the equation 208-0.7 (age) could closely predict mean HR max in children, but with the caveat that individual variation would always be present. In the absence of our client group being able to *tell* us directly how they were feeling during exercise we needed to ensure that we stayed within a safe limit and used a combination of the ACSM guidelines with Mahon's suggested Paediatric modifications. All children were to remain in the 'very light' to 'light' exercise zone due to the complexity of their need.

To capture the views of the staff accompanying the children to their sessions a questionnaire was drafted and presented the first time each class team member visited the gym after the project commenced.

All gym sessions were run by Tracy Friend who was responsible for the data collection at each cycle. Regular meetings were scheduled with me to discuss individual children, any problems with the equipment, modifications that may enhance the cycling experience, positive emerging anecdotes, and any concerns. This specific project ceased at the end of the Academic year (July 2016) with the intention of recommencing the service as part of the schools Physical activity programme in September.

5| EVALUATION OF THE ACTION

Raw data from the two sets of measures was converted in to average mean date for the purposes of analysis. Data was compared for the same child across different months and then between children to look for any significant findings.

Key findings from the data sets:

Child	Key findings	Inference
1.	D was not happy cycling and cried when placed on the bike.	Trial terminated at this time. D was the youngest member of our cohort. Our children often find new experiences challenging and take longer to adjust to something novel. In discussion with our experienced class teams we know that something that was once difficult can become enjoyable. Cycling needs to be introduced slowly and if the child is not comfortable then it can be revisited at a later date to see if things have changed.
2.	E has the most functional ability of the cohort. She can sit independently and move between positions on the floor. However her graphs showed the *least* amount of active cycling in comparison to her peers, with almost all of the session being passive (less than one minute of active cycling each time)	E's data highlighted the difference between *capacity* and *function*. She would be considered able to pedal from the observation of her daily mobility, but the activity of the bike was new and there are many other reasons for suboptimal physical activity, including biological, psychological and social factors (Philpot et al 2010). E actively pushed out against the cycle and these showed up as 'spasms' on the bike. The bike is not sophisticated enough to distinguish between voluntary and involuntary muscle resistance. This reinforced the need for all bike sessions to be closely monitored by a trained practitioner so that data is not misinterpreted. Although E was not able to cycle for long she **was** able to do so very briefly. I would like her to continue over a much longer period to assess whether more exposure brings more activity?
3.	R has a dyskinetic motor disorder (involuntary movement) rather than presenting with stiffness in his muscles. R did not register any active independent cycling. However he did not register any muscle tone (stiffness) either and allowed the bike to passively cycle for him with no adverse reaction.	As above R would be a candidate for a much longer case study to establish whether a learned/innate response to cycling is stimulated over time. I would specifically like to achieve an increased frequency to observe whether exposure is related to cycling capacity.
4.	M's movement disorder presents predominantly as weakness. This child recorded the biggest increase in active cycling - **nearly 6x active cycling over 3 months** He achieved the most number of sessions achieved in one month, with some recorded on consecutive days (other children's absence from school meant there were some free bike slots to be filled in the timetable). Due to circumstance there was a large gap of one month between his penultimate and last session. He still maintained his progress and increased the recorded active cycling time again in the last session. No muscle tone and no spasms were recorded across all cycle sessions.	The findings are consistent with the child's movement profile of overall weakness rather than stiffness. There would be less resistance to passive or active movement and therefore good movement potential if the motivation matched. The child has a generally passive demeanour and his active response was genuinely surprising. The flat graph representation clearly shows a consistent lack of activity until such time that he was able to access the bike daily. This would lend to the actions proposed for further investigation with Child 2 & 3. Maintenance of progress over time would suggest that an element of learning has occurred and the child is remembering the action – whether this is at a conscious or innate level is not possible to determine?
5.	IW's motor disorder is very complex and a mixed picture of spasticity and dyskinesia. She recorded the highest number of spasms and this would be expected when related to the functional challenges she faces with seating/positioning and comfort on a daily basis.	Having knowledge of I's presenting movement disorder we can see that the levels of spasms during her cycle are a clear indicator of spasticity as a velocity dependant phenomenon. A decrease in spams from the level recorded at the beginning could suggest: • An initial anxiety response to cycling, that reduced over time (emotion can affect stiffness)

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	IW's response to the cycle session was always positive. She is a child who can communicate pain/discomfort and this was never evident. **She increased her active cycling capacity from an average of 24 seconds one month to 5 minutes 30 seconds the next month.** With an increase in active mean cycling there was also a correlation in the decrease of her spasms. IW demonstrated a pattern of increased heart rate (within safe zones) that would be expected with aerobic exercise. One of her cycles also resulted in an increase in her oxygen saturations from 90-99%.	• A 'relaxation effect' of gentle, steady velocity, rhythmic cycling once she had acclimatised to the new activity? • A learning effect for the activity. As her cycling sessions increased so did her ability/motivation? Tracy also reported that IW was very sensitive to position change and optimising how she was sitting, by bringing her forward slightly in the chair (increasing the amount of bend at her hips) had a positive overall effect on her stiffness. Perhaps most significantly we recorded that she had Botox injections to her legs part way through the trial. The date of the Botox (as highlighted on her graph data) coincided with the reduction in her spasms. Botox specifically acts to 'switch off' stiffness in the targeted muscles. IW has the injections to help her comfort in sitting. The benefit of Botox on active movement/function is known to be documented for ambulatory children less affected by CP, but fewer studies will have looked at children with a GMFCS level 5 disorder. This would perhaps relate to the expectation that the children would not be able to actively participate. In this instance the Botox was not delivered for the primary purpose of helping active movement but we can feedback to her Neurology team that this correlation was incidentally observed. This relates to the statement from the ACSM (2014) that "Medical interventions such as Botox injections…may drastically change the function potential of the individual".
6.	AS' cycling profile showed that over the 3 month period he was able to achieve a consistent active rise in his independent cycling, **tripling his average capacity**. He presents with the same classification of motor disorder as IW but interestingly their profiles were in direct contrast. Over the period it was recorded that the **more he cycled actively, the more spasms he experienced.** AS did not communicate that any of the spasms were uncomfortable and no sessions were terminated on this basis.	AS was motivated to cycle and the more exposure he had to the activity the more he participated. His response perhaps strengthens the assumption that the Botox injections for IW were positively affecting her response to cycling. In this case, in a child with a comparable motor disorder, the velocity related stiffness was impairing his active ability.
7.	L's profile was the longest recorded, with data from 6 months of cycling over a total of 26 sessions. During his **first session he cycled for 9 seconds and this steadily increased to a mean peak of 9 minutes.** He had no record of any muscle tone and only recorded spasms in one session. These were recorded by Tracy as L 'pushing' against the bike, rather than the involuntary spasms noted in other children. By monitoring his vital statistics we were able to identify an anomaly session where L's heart rate was unusually high and his sats were lower. This was a possible indication of him being unwell and the session did not proceed.	L presents with **no** tonal response to the velocity of the bike. L's cycling ability took time to develop. Monitoring of Heart rate and oxygen saturations was shown in this instance to .be crucial to the session as it highlighted a clear anomalie day and we were able to take the decision not to cycle on that particular occasion. L's cycling graphs show that his performance, although very encouraging, was unpredictable and erratic between sessions. I would like to see if greater consistency is seen with time and exposure or if other variables need to be changed to achieve this?
8.	S has no voluntary active movement of her legs in sitting or lying however **she cycled actively from her first exercise session on the bike (67% activity).**	S was able to cycle actively having never taken part in the activity before. This is of interest from both a physical and a cognitive point of view. A distinguishing factor for S is that she has an Intrathecal Baclofen

	She has a background of significant stiffness in her muscles and her activities of daily living are impaired at the same level as IW and AS. **However cycling, active or passive, did not trigger any spasms at any point during the observation**. There was also no record of any muscle tone (resistance through movement). S is the oldest child in the observation group.	(ITB) pump sited in her body that delivers an anti-stiffness medicine *constantly and directly* to her bloodstream. Other children being observed also take this medication, but they receive it orally which is a much less effective mode of delivery (the medicine has to travel to the stomach first and gets diluted before it reaches the bloodstream). S's profile suggests that the pump has enhanced her capacity for active movement, but we cannot determine this with certainty as we have no data before the pump was inserted. Equally L demonstrated no stiffness and he has no ITB pump? This follows on from L's observation as we have another child who can cycle freely with no spasm. L's cycling ability took time to develop, whereas S's seemed more innate and consistent from the outset.

What happened during or after the action?

- **Development and ownership of the programme**

The Action of formally evaluating the Try-cycle programme has resulted in a development in all aspects of the work. The specific intention of profiling how our children move and respond to cycling has been achieved. At the most basic level we have established that 7 of the children were comfortable during cycling, 5 children could actively participate in exercise, 4 children improved their active participation over time and there were no adverse effects on heart rate or breathing. This has laid the foundation for the work to expand and has justified the on-going evaluation of all children's cycling profiles. For the individual child we have progressed from the bike session being an 'experience' to an 'intervention'. Personal targets have now been set with a focus area for change that reflects their ability to date (i.e. increase time on the bike, increase activity). We did not have an expectation for the degree of change that would occur and equally we could not have predicted the evolution of the project itself.

By formalising the project as Action research there has been an unexpected shift in the status of the work. As a joint initiative Try-cycle has always been innovative in its delivery – conceptualised and monitored by Health, but delivered by Education. However as a direct result of the work Try-cycle, as a package, has organically developed its own identity. As delivery became embedded in to the curriculum timetable the work became more visible to the wider school community. Our lead LSA was supported to increase her time dedication to the project and Willow Dene's 'ownership' of their integral role in Try-cycle thrived. The gym space dedicated to cycling was allocated resources – a new sign for the front door, an office desk, towel rack, photo display board. Enhancing the space enhances the experience for all participants and visitors are a regular feature in the gym From our staff survey thirteen responses were collated which showed that staff positively responded in all domains of the questionnaire. There were no negative comments and the bikes were seen to be beneficial for the students and school.

A third cycle (smaller size) was purchased for the project to enable our youngest pupils to ride. As the commitment to the potential of the intervention was becoming clear we agreed we wanted to promote active participation in exercise (where appropriate) from the earliest age.

Similarly Willow Dene has now opened their new secondary site in the borough and our 4th bike has been bought to serve the children through transition.

Sessions on the bike are now being actively sought by teachers across the school, for children with varying diagnoses. For the purposes of the evaluation we focused on the children with complex

motor disorder but there are a wide spread of children who have been identified as potentially benefitting from the intervention;

- Post-surgery to gently reintroduce exercise and movement
- Obesity concerns
- Children with a diagnosis of Autistic Spectrum disorder – some children cannot pedal a bike and this would help to model the activity. They can also have problems with regulation of behaviour and our teachers have suggested that the rhythmic activity of the bike may have a sensory benefit.

This is a positive development but also raises the question of capacity and demand. In its current format the project is not able to expand and priority criteria are being developed so that we can allocate sessions based on highest need. This also ensures that we continue to achieve consistency for the students that *are* on the programme and their experience does not get diluted by introducing too many riders.

To address capacity as an interim measure we have written a competency document for the safe use of the MotoMed bike. This has allowed staff members to become proficient in the delivery of a session and therefore the bikes can be used outside of Gym time to maximise the resource. However children with a motor disorder or any other physical concern that would deem them a clinical risk are only seen by our lead LSA and/or Physiotherapy team to ensure safe practice.

The specific development of Tracy's role has been an extremely positive benefit of the programme. Her vision and commitment to the work has helped embed the project within the school's core provision. She has championed the work with our parents, producing communication slips and termly reports to update them on their children's progress. She has also enhanced her clinical reasoning skills in the assessment of the sessions and the necessary adjustments that need to be made for each child's comfort and safety. Overall the experience has highlighted how new roles can be created through effective, innovative Education/Health partnerships.

6 | CONCLUSIONS

 "Can we demonstrate through case studies that children should be given more opportunity within the school day to participate in exercise in an attempt to combat the physical effects of immobility that are an additional concern for their well- being?"

From the case studies shown we can demonstrate that there are positive observations when our children with complex motor disorder are given the opportunity to participate in active exercise.

What is apparent from the small number is that even with the same classification of motor disorder all those observations are *very* different. Every child's profile brought up something unique for discussion. There are also a number of external variables that need to be further considered.

Due to the nature of our children's difficulties they are unable to perform exercise as would be advised for the mainstream population. The children in the evaluation were unable to complete a standard warm-up as they are unable to follow specific instructions (e.g. please let the bike cycle for you for 2 minutes, or cycle at half of your normal speed for the first 2 minutes). There is also a training deficit as we are unable to determine their actual baseline fitness because we cannot instigate maximal effort exercise assessment.

Perhaps what we can hope to achieve with the continuation of this early profiling is that we will be able to expand on the current guidelines for children with Cerebral Palsy (e.g. the ACSM 2014) so that they include a safe approach to exercise for the GMFCS 4/5 population. The more children we profile over the time, the more we can say with certainty that this cohort of children are able to be active and that this is a safe, positive experience for them.

Plans for continued work

Thoughts	Planned action
We need to continue profiling children's cycling ability according to motor disorder classification to study how different children with the same diagnosis and level of physical impairment respond so differently to the activity. Now that we have profiled the children and have a very clear protocol for assessing and using the bike safely, we could look to formalise the research as an on-going study of cycling ability in children with additional needs.	• Present the work to the Health Quality and research board to discuss Ethical approval for a longitudinal project. • Apply for the next round of the University of Greenwich Institute of Integrated care funding to assist with research planning and delivery • Look at formulating a plan for a safe incremental approach to building up the duration of cycle sessions. Strong et al (2005) suggest that for youth who have been physically inactive, "an incremental approach to the 60 minute goal is recommended. Increasing activity by 10% per week". This is an approach used in athletic training appears so for our population we could look to start under this figure to accommodate for our children's motor disorder.
In order to maximise participation and profiling across the school we need to increase resource to the project. If we refer back to the Department of Health's recommendations and link this to the information relating to safe exercising for children with CP (ACSM) we would aim for children to be participating in consecutive *daily* cycling. This was achieved with one child in the project and appeared to have a significant impact. From what we know this would require a Medimotion bike attached to each high needs class room.	• Present findings to potential sponsors/ partners to try and secure additional funding for the cycles. • Invest in the programme and expand the Try-cycle identity • Map out demand/capacity document illustrating the shortfall in potential cycle sessions across the school week • Development of the lead role for Trycycle delivery. This would include an increase in the number of days allocated to the project and enhanced roles and responsibility gathering and recording data.
Would like to look at the schools overall participation in Physical activity versus sedentary time. We could begin to compare our ambulatory and non-ambulatory children and use the evidence to source more resources for the non-ambulant children?	• Activity logs across the school • Use of pedometers/Fitbits for ambulatory children • Literature search in to the 'Weekday versus the Weekend' pattern of activity for children with complex physical and medical needs. It is the assumption that weekday opportunities for movement would be greater as the school environment has more of the enabling special resources required to help children participate in movement. Being able to demonstrate this would give added support to the project and the responsibility we have to children, as a provision, in this area.
Look further at the link between cognitive ability and performance in cycling.	• As part of a child's referral on to Try-cycle there will be a record of their cognitive ability. This may be able to link in with their Educational profile/school Footsteps record? If we capture this measure we can start to assess the assumed impact that understanding has on the outcome of active movement
Do we routinely record our children's Body Mass Index (BMI)? There will be a cohort of children in the school who are registering as (or at risk of becoming) obese. The bikes offer an exercise opportunity that is above and beyond the P.E curriculum and children could access cycling sessions on the grounds of weight as an identified health need.	• Liaise with the school Nursing team to discuss BMI recording and the potential for the prescription of an obesity component to the Try-cycle programme.
The number of missed sessions was recorded at times during the observations, but this was not completely consistent.	• The percentage of missed sessions for children, and the reasons behind these need to be more formally documented. A specific capture sheet needs to be included in the child's file so that we can fully explain the absence and link this to performance.
How do we help our children achieve greater consistency of cycling ability? We can see from the individual graph presentations that children's active cycling peaked and dipped between sessions. None of the graphs showed us a consistent, steady pattern once active cycling had been established. We know that our children have many more external variables than a child without a motor disorder, but over time is there any way we could help this to level out so that they are maximising activity.	• Tracy already records information about each session through detailed written description, but this should be developed in to a format that can be compared for each child's cycle and between different children's sessions (e.g. time of day, cycling as an individual, cycling in a group, cycling with the TV on, cycling in a quiet gym, how long after anti-stiffness medicine has been given)

We can look more closely at the possible benefits of Medical intervention on cycling. During their time on the bikes children will incidentally have new medicines introduced to their regime and possibly receive Botox injections. Although for our population these interventions are generally prescribed to aid comfort and positioning, rather than enhance activity, we may be able to record there is an additional benefit to their health and well-being as children are able to become more active partners exercise.	• Record medical interventions as routine • Develop Botox database to keep for reference in the Trycycle gym • Physiotherapy team to inform the Trycycle lead of any upcoming Botox injections • Link with the Tertiary centres (Evelina Hospital) to discuss any significant findings.

What is clear from the background literature is that there is a need to look further at intervention for this population as they fall under the radar for conventional research studies. In the Surveillance of Cerebral Palsy in Europe (2002) it was recorded that overall a third of children with CP were not walking. In our local Children's Physiotherapy service evaluation we know that our caseload has had a consistent representation of children with CP each year (our largest single diagnosis) sitting at around 45%. These two figures combined indicate that there is a significant population of children that need help to facilitate active movement in some way if we are to try and attenuate the disadvantages of a sedentary daily life.

The project has opened up the realm of 'capability versus performance'. Capability *"relates to the skills a person has developed by practice in a particular physical environment, the second to the actual application of these skills, which is influenced not only by physical environment but also by personal and social factors"* (Smit et al 2010) This is highlighted very clearly by Child 2 in our evaluation who we would assume had the capability to cycle (based on her other daily movements) but she was unable to perform the action of cycling on the bike itself. This was then also shown inversely when Child 8, who was *not* considered to have the capability, cycled actively for the very first time she was exposed to the bike. Smit et al (2010) suggest that 'Capability' and 'Performance' should be considered distinctive constructs within the ICF and our work would support this. From their findings they advocate that more severely impaired children (Levels 3, 4, and 5) should concentrate on capability enhancement, whereas levels 1 & 2 might benefit from focusing on other factors (cognitive, personal, and contextual). This helps to shape and rationalise our wider approach to service delivery for our CP population and can be brought from this project across to the main Physiotherapy team for discussion.

Van Eck et al (2009) further support the focus on capability/capacity for movement. They suggest that although motor growth curves show that children reach 90% of their motor capacity by around 5 years of age or younger, depending on their GMFCS level, this might be further enhanced through the use of aids and mobility equipment. They concluded that more research was needed to investigate the role of the environment and use of mobility equipment on motor performance over time. Our Try-cycle programme would be a direct example of this as children of 12 years old have cycled and shown a capability for movement that was previously unknown.

7| FINAL REMARKS

Being part of the action research cohort has been an extremely positive experience. As a clinician there is always a focus on delivering high quality outcomes for our clients. This is combined with the everchanging challenge of achieving more within limited resources. New initiatives and projects are constantly conceptualised in our service but the pressures of meeting demand for new referrals and providing a service to our caseload means that there is not the capacity in the working day to drive forward service improvements as we would like.

Action research has provided me with an opportunity to formalise a research project and has offered the support needed to bring this in to fruition. The framework of the project has given me focus and structure, without which I can categorically say my research would not have been carried out in this time frame. With such a high level of competing demand, both professionally and personally, any research activity gets constantly side-lined and there needs to be an external driver helping to push work forward.

The informal structure of the monthly sessions worked very well. The tone of the meetings was relaxed and I think this is very important in fostering commitment from participants. I was not 'afraid' to come back to a meeting if things had not moved on very far since the last time I attended, as I knew that the facilitated discussion would tease out some good feedback and help give me some new direction. I always left the meetings with a new angle, an inspired thought or a practical change that would help shape the project. This felt very subtle, low pressure, but very motivating.

Engaging with peers also undertaking research is by nature very inspiring. Being able to share others experiences, listen and reflect is something that we get little time to do, so having a protected arena to participate in this has been refreshing.

More than anything I would say that the experience has set off a thought train that is now at full speed! I have always had a passion for innovation and making positive changes for children but working in a more formal research arena has moved my thinking on. I want to continue the work that we have started as I feel it has opened the door to further exciting avenues for exploration.

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