Boys' engagement and attainment: To investigate behaviour for learning with a view to improving boys' engagement and attainment

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A Research & Development Project

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Introduction

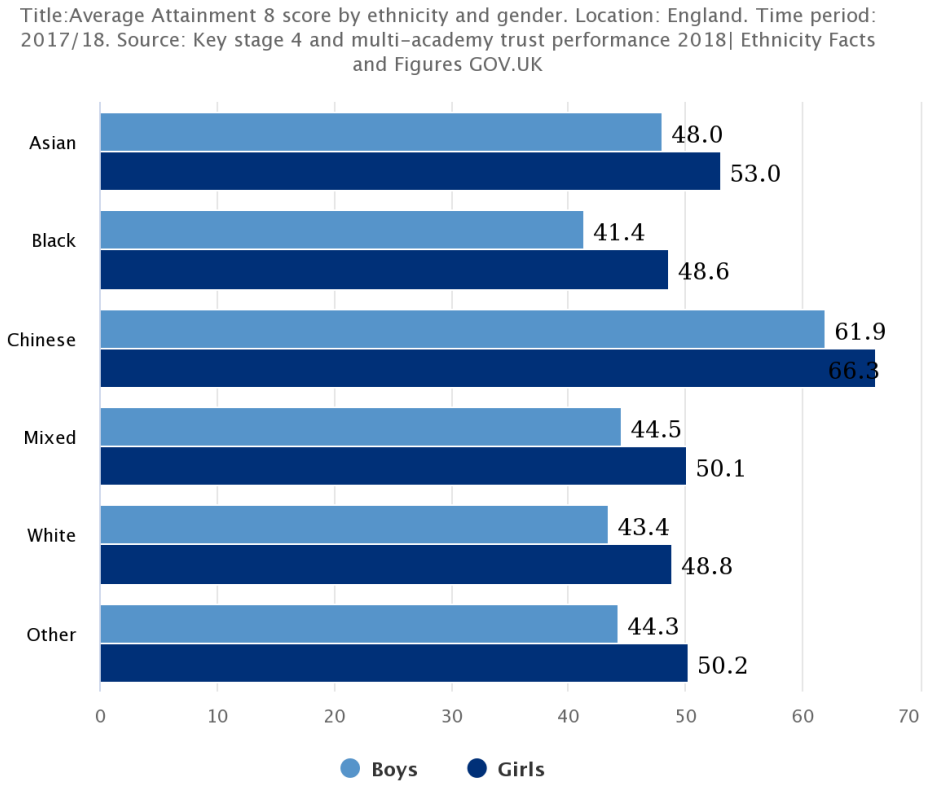
A school-based gender gap in achievement exists, despite a plethora of research over many decades to address this.

Younger et al., (2005) illustrate that much research had taken place to identify 'boy-friendly' pedagogies in the previous ten years, which will it was hoped would be effective in engaging boys in education. It was identified that such lessons often contained competition, variety, structure and activity, as well as a fast pace, short and focussed activities, clearly defined and achievable aims and short-term targets (p.53)

It has been identified that every year high achievers at primary school, who are often in the top 10% nationally as identified in Key Stage 2 tests, are placed outside the top 25% of pupils by GCSE results. Allen highlights about 7000 such pupils each year, of whom 15% are termed as highly able. She notes that boys, and particularly pupil premium eligible boys, are most likely to be part of this group (Allen 2015).

In 2018, girls outperformed boys by ethnicity and gender at GCSE (DfE 2019).

Average Attainment 8 score by ethnicity and gender 2017 - 18



(DfE 2019)

In 2019 boys were still outperformed by girls in both English Language and Literature. 22.6% of girls attained grade 7 or higher in English Language GCSE, compared to only 12.4% of boys and 78.2% of girls achieved a grade 4 or above versus 62.9% for girls (Allen-Kinross 2019).

Similarly, in English Literature GCSEs girls continued to outperform boys with 5.1% of girls' entries attaining a grade 9 versus 2.2% for boys and 26.7% of girls being awarded grade 7 and above compared with 14.8% of boys (Allen-Kinross 2019).

In the Autumn Term, 2018, a school inset training event took place which was designed to raise boys' achievement and close the gender gap. The cohort were told that research and experience suggest that boys learn best…

- Visually / spatially
- Through competition
- Through a sense of hierarchy – they like to know where they are in the pecking order and mock the ones who fall out with them. Can lead to antipathy, where they wind each other up as they are afraid of what their peers are going to think of them.
- Through trial and error, which evolves through competition
- By viewing things as problems that need solving. Boys 'think'.
- Have peers as their role models

Whereas girls:

- Like to learn by amassing language
- Collaborate with each other and are supportive of each other (but woe betide the one who steps out of line – girls reciprocate)
- Have adults as their role models. E.g. Mum or their teacher

- Reflect in what they have learnt and only put their hands up if they are 100% sure of getting it right.
- By viewing problems empathetically. Girls 'feel'

(School inset training)

It appears this training was given as a result of a course a colleague attended, with an accompanying booklet, which unfortunately, was subsequently lost meaning the assertions are unattributed. However, it is possible to see variations of this in the literature review. Accompanying this presentation were some competitive activities suggested to help raise boys' attainment and the hope that some of the activities could be filmed to produce an in-house DVD promoting good practice.

It was apparent that closing the gender gap is important nationally, to the Senior Leadership Team and teachers within the school. In 2019, the school had a gender gap of -0.44 at Key Stage 4, in favour of the girls. The school has added boys' attainment and closing the gender gap to the school's development plan. I have long believed in equality of opportunity and have responsibility for around 130 boys as a Housemaster and therefore, started to consider why an issue that was

so long-standing had not been effectively addressed, leading to my research for this paper.

2019 Progress Score – KS4

Name	Pupils	Progress Score
All students	133	0.58
Boys	69	0.37
Girls	64	0.8
Gender Gap	5	-0.44

School context and research questions

The school in which this action research was conducted is a co-educational comprehensive school, teaching the 7-18 age range, situated in Southern England, which serves the surrounding communities and offers State boarding to a wide community entitled to education in Britain. There are just over 1,100 students, of whom nearly half are boarders. The school offers an extended day programme between 7:30 am – 9pm.

The School has a charitable trust which finances assisted boarding places for children who are without one or both parents and whose

special circumstances make boarding desirable, collectively known as Foundationers. There are currently 105 Foundationers, 70 are boarders. The School is primarily a boarding school with an ethos of all-round education.

The student population comprises 50.4% boys and 49.6% girls and, as shown below, experiences a gender gap in achievement at KS4, comparable to the national picture.

This school sets into ability groups for GCSE English from Year 10, adjusting as deemed necessary to reflect performance and ability over the two-year course.

Research questions:

- What are accepted strategies for improving boys' attainment?
- How effective have they been and why?
- Which factors affect boys' engagement and attainment and how can they be redressed?

Literature Review

Reichert and Hawley (2010) polled teachers in 18 boys' schools in countries including the UK, USA, Australia and South Africa to consider effective practices with boys. The teachers identified lessons the boys like best as including:

- The opportunity to get up out of their seats and move around
- Competition
- Students teaching each other
- Using technology
- Games, role play, or debates
- Topics that are relevant to their lives
- Surprising events or novelty.

It is often assumed that girls outperform boys across the curriculum, whereas boys generally match girls' performance in Mathematics and Science, but underachieve in English (DCSF, 2009). It is argued that 'such variations are more strongly informed by social class than gender' (DCSF, 2009, p.1).

Girls are attending and graduating from college in record numbers (DiPrete & Buchmann, 2013) and are succeeding as business leaders and politicians and account for most enrolments in medical schools and law schools (Andrus, Jacobs & Kuriloff, 2018). Christina Hoff Sommers argued that resources should be aimed at supporting boys and it was a mistake to direct so much resource to supporting girls (Sommers, 2001). Andrus et al. illustrate that 'women make up less than 5% of Fortune 500 CEOs' and that 'Educational equity is not a

zero-sum game' (Andrus et al., 2018, p.47). Their research provided broadly comparable results with Reichert & Hawley (2010) in terms of the characteristic of successful lessons for girls, who are likely to be 'fully engaged by caring teachers who set high standards and provide ample ways to meet them' (Andrus et al., 2018, p.49). This aligns with literature demonstrating the gender similarities hypothesis (Hyde, 2005).

It is argued that gender differences are constructed to conform with social norms within society and may be 'deep-seated, and children enact these without being unconsciously aware of them.' (Skelton, Francis and Valkanova 2007, p.vi). The pupils, peers and teachers play a role in addressing the constructs and can also challenge the notions of gender to remove the gender gap and 'It's in schools where gender constructions are less accentuated that boys tend to do better'. Conversely, those schools who alter the curriculum to provide a 'boy friendly' curriculum are more likely to make the issue of gender stereotypes worse and these actions have also been shown to be ineffective (DCSF 2009, p.2).

Andrus et al (2018) caution against homogenising genders and iterate that for 'all students to be fully engaged and empowered in the

classroom, teachers must provide a learning environment that eliminates gender bias, dismantles stereotypes, and removes barriers to students'…' and that 'adopting active gender consciousness helps teachers do this' (p.49).

It is important to explore the taught curriculum for opportunities allowing teachers to tailor what is being studied to ensure its relevance to the students in terms of connections to their own lives, 'allowing students to meaningfully integrate their own experiences' – which is valued by them. (Andrus et al, 2018, pp.49 – 50)

Pinkett and Roberts (2019) identify common myths regarding boys' engagement as:

- Boys like competition
- The relevance of learning to boys' interests
- Boys have different learning styles

Competition in the context of engaging boys and spurring them onto greater attainment is problematic. Some boys may engage and thrive in a competitive classroom environment – as will some girls – but surely for the majority, painful lessons of failure are reinforced, risking disengagement. There is also a danger that the competitive environment harms the ability to collaborate in the classroom. It is

argued that, in part, girls perform better than boys due to their ability to use 'interactive and cooperative modes of learning, with the emphasis on discussion and collaboration, working together on an issue or a problem, rather than in isolation, and competition with others. This ability to talk through an issue, to explore dimensions of the issue collaboratively with others, sustains and supports more effective learning, and needs to be mirrored by more boys.' (Younger et al., 2005 p.53)

Willingham (2009) asserts that content does not drive interest – it may initially prompt interest but is unlikely to maintain it, whereas we may become fascinated by a subject we initially thought we had no interest in (Willingham 2009, pp10 – 12). Furthermore, he contends 'It is virtually impossible to become proficient at a mental task without extended practice.' (Willingham, 2009, p.107) and Rosenshine (2012, p.19) affirms 'The best way to become an expert is through practice – thousands of hours of practice. The more the practice the better the performance'.

Roberts (2019) highlights research on 'Visual, Auditory and Kinaesthetic' (VAK) learning, in which boys are often labelled as kinaesthetic learners. We are told:

- that boys learn best when instruction involves touch, or hands on activities;
- many boys struggle to sit still to hear stories 'as they are movement-driven in their learning process' (Gurian, 2006 in Pinkett & Roberts, 2019, p.23)
- 'You will have lots of kinaesthetic learners in your classroom… a lot of these will be boys and guess what? Boys are often the most reluctant learners. Kinaesthetic learners need to use their bodies and move around to help them learn.' (Toward, Henley & Cope, 2012 in Pinkett & Roberts, 2019, p.23)

However, the research identifies issues in the debate, such as a lack of evidence to suggest such strategies suit most boys' learning styles or are better suited to boys, rather than effective for girls. Consequently, there is a danger of an acknowledgement that because girls are often more cooperative and willing to learn, they do not need to be taught in similarly interactive and investigative styles. (Younger et al., 2005)

Willingham (2009) clarifies 'The key prediction is that students will learn better when instruction matches their cognitive style', but 'Dozens of studies have been conducted along these general lines, including studies using materials more like those used in classrooms,

and overall the theory is not supported. Matching the "preferred" modality of a student doesn't give that student any edge in learning.' (pp.155-6)

Newton (2015) disputes the existence of 'Learning Styles' and illustrates their use has been 'repeatedly discredited in research literature'. Despite this, it appears their use is widespread. Newton claims that 'The overwhelming majority (89%) of recent research papers, listed in the ERIC and PubMed research databases, implicitly or directly endorse the use of Learning Styles in Higher Education.' VAK and Kolb learning styles monopolise the papers.

Riener and Willingham (2010) acknowledge the learning style theorists are correct in their claims that learners are different from each other and these differences affect performance, learners' interests are different, their background knowledge differs and some students have learning disabilities which affect their learning in different ways (p.33). They 'assert that a certain number of dimensions (ability, background knowledge, interest) vary from person to person and are known to affect learning. The emphasis on learning styles… often comes at the cost of attention to these other important dimensions. (p.34)

Riener and Willingham (2010) articulate what they believe learning-styles theorists get wrong and possible reasons for the continued belief but highlight the opportunity costs of the learning-styles myth. They show that despite a lack of evidence for learning styles, there have been insights as to how memory works, citing Carol Dweck's *Mindset* (2006) summarising how incentives and internal drive affect learning and the value of testing for learning in work by Henry L. Roediger and associates (2006).

Self-Determination Theory emphasises the importance of students' inner resources, which are fundamental to their personality development and behavioural self-regulation (Ryan, Kuhl, & Deci, 1997 in Ryan & Deci 2000), or to make choices and manage their own lives. Ryan & Deci (2000) identified 'three innate psychological needs: competence, autonomy and relatedness' [connection] (Ryan & Deci 2000, p.68), which allow growth when fulfilled. It is assumed that the need for growth drives behaviour and gaining mastery over a challenge helps develop a sense of self and that autonomous motivation is key – intrinsic motivation over extrinsic motivation. The need for competence, to succeed and gain mastery is harmed for most

boys in the competitive arena being established in classrooms and I would argue, so is their connection, or attachment, to other people.

Deci, Koestner and Ryan (1999) suggest that our actions can foster or thwart the well-being and personal growth of others. In offering positive feedback and encouragement it can increase intrinsic motivation by bolstering a person's feeling of competence – a key need for personal growth. Conversely, giving extrinsic rewards may undermine autonomy for those who are intrinsically motivated and diminish the motivation. Therefore, the implication is that the social or educational environment can either help or hinder a self-determined perspective.

However, Covington (2000b) examines the relationship between intrinsic and extrinsic motivation in schools, suggesting that reward may not hinder a pupil but that 'focussing on students' interests can be a valuable motivational strategy' (Covington, 2000b, p.22). He outlines the dangers of intrinsic engagement, such as a lack of desire to continue studying when rewards are no longer available (Covington, 1998) and concludes that pupils 'are more likely to value what they are learning and enjoy the process, (a) when they are achieving their grade goals; (b) when the dominant reasons for learning are task-orientated

reasons, not self-aggrandizing reasons; and (c) when what they are studying is of personal interest' (Covington, 2000b, p.24).

In terms of implications for the classroom, the most obvious is to engage pupils by ensuring schooling is based around their personal interests, but it is not always possible to do so, nor can pupils always succeed. Covington argues that by reframing rewards to be given against whether a pupil achieves success criteria, rather than their relative peer performance (Covington & Teel, 1996), motivates as any shortcoming is seen against a goal, rather than as a person (Covington, 2000b).

Furthermore, Covington illustrates that whilst pupils initially focus on achieving a good grade, they are more inclined to 'invest time and energy (beyond what is necessary for the grade)… where there are additional tangible, yet intrinsically oriented payoffs… including the opportunity to share … explain more deeply and personally why what they learned was important to them.' Consequently, 'far from being incompatible, intrinsic and extrinsic reasons for learning are both encouraged by tangible rewards, but by different kinds of tangible rewards' (Covington, 2000b, p.25)

Covington (2000a) identifies that students' self-perception is in part constructed by communication with those around them in school society. He asserts that self-worth and ability are not mutually exclusive, and self-concept is connected to students' achievements and the role they play in the social world of the school, with the need to feel a sense of belonging, integrity and respect from peers. This is seen as a key motivating factor and a determinant of self-image.

Reichert and Hawley (2009) assert that 'teaching boys effectively is like a dance' which needs 'a productive partnership' which 'strongly suggests that the establishment of an affective relationship is a precondition to successful teaching' (p.38). Raider-Roth proposes the 'relational learner' as the most suitable model for learning and 'the notion of the relational learner postulates that the learning self is constructed and developed within the relationships of school' (Raider-Roth, 2005, p.21). Andrew Martin, when examining degrees of achievement motivation shown by boys and girls, concludes 'Particularly critical to students' engagement and motivation in a particular subject was their *relationship with their teacher*' (Martin, A. 2003, p.54).

Rosenshine (2012) developed a research-based set of 10 principles of instruction. These principles were derived from three sources: research in cognitive science, research on master teachers and research on cognitive supports. Rosenshine attests that whilst derived from 'very different bodies of research, *there is no conflict at all* between the instructional suggestions that come from each of the three sources' (p.12).

Rosenshine's 10 principles are:

- Begin a lesson with a short review of previous learning
- Present new material in small steps with student practice after each step
- Ask a large number of questions and check responses of all students
- Provide models
- Guide student practice
- Check for student understanding
- Obtain a high success rate
- Provide scaffolds for difficult tasks
- Require and monitor independent practice
- Engage students in weekly and monthly review.

Zoe Essen (2019) cautions that one must consider what underpins the above ideas, rather than use it as a tick list. She believes that Rosenshine's principles pose questions of teachers in relation to their classrooms and contexts and should be used as kindling to examine how well we are teaching and how we can improve.

Similarly, Deborah Gibbs articulates that Rosenshine's principles are principles and not a model lesson plan. She fears there is a danger that teachers use the principles as a formula, denying 'intelligent lesson planning and the opportunity to deliver outstanding teaching' (Gibbs, 2020) and therefore, they will lose their significance. Instead Gibbs believes they should be an 'aide-memoire for lesson planning and the basis for good teaching'.

Gibbs asserts that the outstanding teacher engages with the class of individual students to reach the learning outcome 'using their own teaching style… to deliver truly engaging, motivating and exceptional lessons.' Teachers take advantage of unexpected learning opportunities that are presented within a classroom and are responsive to the needs of their students.

Gibbs acknowledges that the Rosenshine principles contain the key aspects of outstanding teaching but cautions against them becoming a diktat.

Fredericks et al. (2004) expounded engagement as: behavioural engagement, emotional engagement and cognitive engagement. They explain: 'Behavioral engagement draws on the idea of participation; it includes involvement in academic and social or extracurricular activities and is considered crucial for achieving positive academic outcomes and preventing dropping out.' Yazzie-Mintz (2006) writes 'Behavioural engagement captures students' actions in social, extracurricular, and non-academic school activities, including interactions with other students…' (p.8).

Students who are motivated are also likely to be engaged (Covington, 2000a) and those who are engaged pay attention, participate, complete classwork and homework, contribute in class and engage in dialogue with their teachers (Skalsky, 2009). Skalsky shows that achievement and participation are reciprocal, as those who are engaged will spend longer on assignments, investing more heavily in the learning process, generally earning better grades and are more likely to identify with the school.

Better behavioural engagement is attributed to quality classroom experiences (Marks, 2000), but it is also known that those who participate in extracurricular activities outside the school day achieve more highly than their peers (Finn, 1993; Fredericks et al., 2004) and experience a greater sense of belonging to the school community (Finn, 1993).

Fredericks et al. (2004) continue 'Emotional engagement encompasses positive and negative reactions to teachers, classmates, academics, and school and is presumed to create ties to an institution and influence willingness to do the work.' (p.60). Yazzie-Mintz (2006) explains emotional engagement associates students' feelings of belonging – either connection to or disconnection from their school. This includes how the student feels about the school, how it operates and the people within the school. This focuses 'on students' internal lives, but [is] not always expressed in observable actions and behavior, this dimension can be described as *engagement of the heart*.' (p.8)

Emotional engagement alludes to students' affective reactions in the classroom (Skalsky, 2009; Fredericks et al., 2004) and their emotional reactions to and investment in the learning tasks (Skalsky, 2009, p.57). Equally, students' feelings towards people within the school are

paramount and everyone from teachers, governors and administrators should support the provision of stimulating and challenging learning. It is imperative for teachers 'to appreciate the strengths, experiences and cultures of students so that classrooms can be as comfortable as possible for all students' (Skalsky, 2009, p.59). Staff should develop strategies for active learning, rather than extended periods of teacher talk (Yazzie-Mintz, 2006).

'Finally, cognitive engagement draws on the idea of investment; it incorporates thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult skills' (Fredericks et al. 2004, p.60). Yazzie-Mintz (2006) describes 'students' effort, investment, and strategies for learning… which focuses primarily on engagement during instructional time and with instruction-related activities, can be described as *engagement of the mind.'* (p.7).

Cognitive engagement can be typified as strategic or self-regulating (Fredericks et al., 2004), where strategic learners address challenges by implementing strategies. These may include organisation, practice rehearsal, summarising and elaboration (Weinstein & Mayer, 1986), as well as problem-solving, information- seeking, use of effort, higher

level thinking skills and experimentation when learning becomes difficult (Skalsky, 2009, p.60). Zimmerman (1990) points to self-regulated learners possessing metacognitive processes: planning, setting goals, self-monitoring and self-evaluating at a number of points during learning. Zimmerman (1990) contends schools should accept students have multiple intelligences and ways of thinking and learn by using a range of strengths when provided with a diverse set of experiences and consequently, schools should develop a curriculum that provides multiple opportunities for learning.

Skalsky (2009) tells us that 'a student who values learning and strives for mastery in learning situation is motivated to learn' and that 'motivation increases when they perceive value of the task can benefit their future endeavors. Students who experience intrinsic motivation are more likely to strive for academic achievement and maintain a positive attitude toward those efforts (Hudley et al., 2002)' (p.62).

There are many influences within the classroom that influence behavioural, emotional and cognitive engagement, including: teacher support, peers, classroom structure, autonomy support and task characteristics (Fredericks et al., 2004). Skalsky (2009) makes clear that 'students who experience emotional support from their teachers

respond by sustaining high levels of motivation with each learning activity (Ryan & Patrick, 2001; Furrer & Skinner, 2003). Darling-Hammond et al., (2002) indicated that strong relationships between students and teachers are paramount to student success. Students who feel a sense of belonging feel strong affective ties to their teacher (Battistich et al., 1997; Samdal et al., 1998; Libbey, 2004; Catalano et al., 2005).' (pp.65 – 6).

Skalsky (2009) clarifies that teachers' behaviours and specific strategies can enhance student engagement and draw positive outcomes from students. 'There is a reciprocal relationship between teachers' behaviors and student's (sic) engagement in the classroom. Students' behavioral and emotional engagement could be predicted by teachers' interactions with their students. Teachers who are enthusiastic, caring, sincere, and provide clear expectations and guidance for their students increased student engagement (Skinner & Belmont, 1993)' (p.66).

Peer interaction is also an important dynamic to engagement; peers tend to cluster with those who engage similarly. However, belonging to a high engagement group increases an individual's behavioural

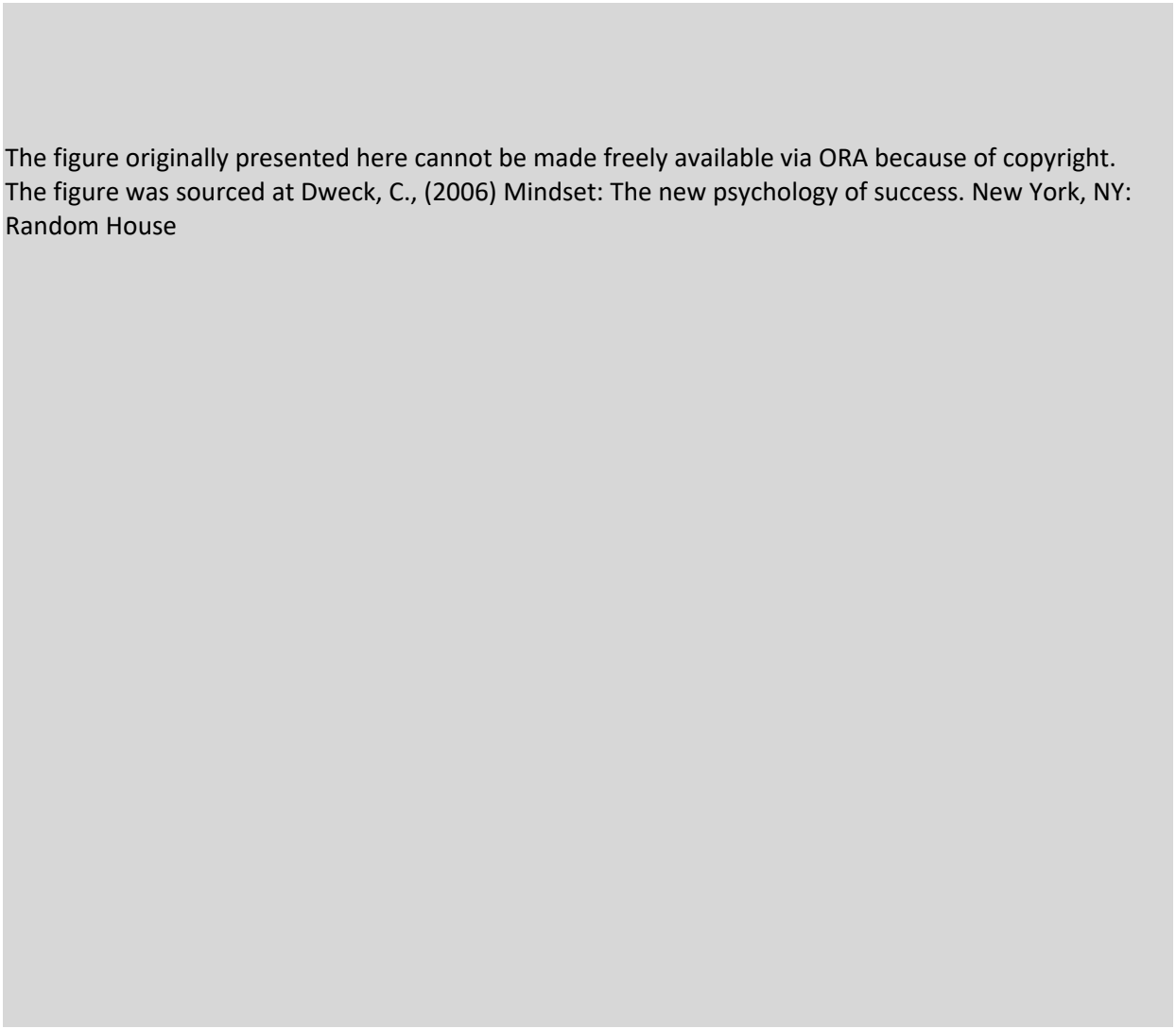
engagement and there is a negative impact on those associating with groups who reject learning. (Skalsky, 2009)

When examining the structure of the classroom, Skalsky (2009) cites the importance of clarity of teachers' expectations and the consequences if not followed. Students are more likely to behave and engage when they understand what is required of them, and expectations and consequences are applied consistently. 'A supportive, nurturing, and safe classroom where the environment is one of optimism and encouragement contributes to a student's social emotional well-being and engagement in learning (Frydenberg, Ainsley, & Russell, 2004). It is no surprise that teachers who exhibit solid classroom management skills lead classrooms where more students are on task and exhibit fewer disciplinary problems; both indicators of behavioral engagement (Fredericks et al., 2004)' (pp. 66-7)

Professor Carol Dweck has studied motivation, personality development and why people with similar intellects perform differently, particularly when facing difficulties (Dweck & Leggett, 1988). The way people view themselves and their abilities affects the outcome. People who believe that their qualities are immovable, with

a *fixed mindset,* often feel the need to prove themselves continuously. Conversely, those who believe their basic qualities can be cultivated through their efforts and help from others, that their true potential is unknown, but 'their initial talents and aptitudes, interests or temperaments – everyone can change and grow through application and experience' are said to have *growth mindset.* (Dweck, 2006, p.7). Our mindset controls much of what we believe of our personality and can either drive us forward or hinder our potential.

The following illustration shows the possible consequences of thinking your intelligence is fixed, rather something that can be developed:



(https://149366099.v2.pressablecdn.com/wp-content/uploads/2015/02/Carol-Dweck-Two-Mindsets.jpg)

Dweck (2006) makes clear that our view of ourselves colours the way we see the world and consequently, the way we live our lives, particularly coping with failure and chasing success. A fixed mindset is a barrier to persistent effort, whereas people with a growth mindset know they have the potential to grow and develop with practice and effort. The positive is that mindsets are learned and can be changed.

Dweck (2006) continues that a growth mindset outweighs talent and that success is possible from a mastery of learnable components. Dweck argues that continually working towards improvement builds character and that setbacks, in fact, act as stimuli to greater efforts. This outlook is conferred on others too, meaning the quality of any relationship can also change and grow – ideal for teachers.

Dweck (2006) articulates that mindsets are learned from young and that the words and actions of teachers can create a mindset. If children learn that neither talent nor ability are fixed, but capable of development, then they can acquire a growth mindset. Praising effort and persistence invites more effort, whereas praising qualities weakens the motivation to learn. Students with a fixed mindset when questioned following failure said they were more likely to cheat rather than apply more effort to studying next time (Blackwell, Trzesniewski & Dweck, 2007). In Nussbaum & Dweck (2008), those who failed a test looked for others who did worse in order to feel better about themselves. In a study measuring the electrical activity from students' brains following an error, it was found that those with a fixed mindset showed little brain activity, whereas those with growth mindset showed much brain activity as the students engaged with the error,

learning from their mistake (Moser, Schroder, Heeter, Lee & Moran, 2011).

Dweck (2006) illustrates that a mindset that precludes the potential for change seriously impairs relationships. With a growth mindset, people understand that they and their partners are capable of growth and change and can see the other person's point of view, reconcile differences in their lives and build a lasting relationship. Those with a fixed mindset are likely to believe the relationship is meant to be, or it isn't. They are less likely to work at rectifying inadequacies in the relationship and believe it should not be – the other person's immovability makes the relationship untenable. I believe there is an inherent fear here, where one party, say a teacher, holds power that relationships in the classroom can be doomed.

Great teachers believe that intellect and talent can be nurtured, and they have a role to play in the development of a student. They are inquisitive, with good subject knowledge and delight in understanding more about themselves, what they teach and most importantly, their students. There is a belief that those who give up on children without natural ability are masking their own inability to engage with diverse minds. Dweck (2006) confirms that effective teachers set high

standards and have high expectations for all and show an honest interest in their students' progress, as well as creating the right environment where a student feels safe to make mistakes and speak freely without judgment of peers. Growth mindset teachers help develop a love of learning and curiosity in their students and Dweck asserts, are more interested in learning than in teaching.

In Rita Pierson's inspirational TED Talks Education (2013) 'Every kid needs a champion' she emphasises the importance of relationships when teaching, 'kids don't learn from people they don't like'. She wrestles with the dilemma of simultaneously raising a child's academic achievement and self-esteem and iterates 'the tough ones show up for a reason. It's the connection. It's the relationships.'

Gurian (2003) points out the adolescent brain is still growing and needs attachment and bonding from family, but also educators. The adolescent relies on parenting and educational models and it is important for the teacher to know the children's backgrounds and be careful what they say.

'The adolescent brain wants love form teachers, not just instruction, so how well students learn sometimes is dependent on how they feel about their teachers'. He goes on to make clear that the teachers

students liked talked to them as adults and were good role models. 'Memory is enhanced if an adolescent feels emotionally cared for.' (Gurian, 2003, p.50)

Gurian (2003) advocates taking an interest in students, greeting them at the start of class, asking about and taking notice of their interests and allowing 'check-in time' where students have an opportunity to speak about their life and the issues they face.

Pierson (2013) affirms 'Teaching and learning should bring joy' and questions 'How powerful would our world be if we had kids who were not afraid to take risks, who were not afraid to think, and who had a champion? Every child deserves a champion, an adult who will never give up on them, who understands the power of connection, and insists that they become the best that they can possibly be.'

Gurian & Ballew (2003) remind us that 'discipline of high school students is a crucial, holistic process of adult-hood maturation' and 'is the last chance to develop the limits and self-management (self-discipline) the mind needs to succeed in the adult world' (p.70) He lists a number of needs for the high school student, including:

- 'A firm and loving teacher, who genuinely cares about each student and shows it.

- A teacher who sets strict rules and reinforces them verbally and nonverbally.
- A teacher who sets high expectations and helps each student rise to meet them.
- A classroom environment that provides equal education and technological opportunities to every student.
- A team-learning environment in which students' emotional stress management is an integral part of the learning process.
- Openness to discipline innovations – as opposed to a single set of strategies that may not work in some cases.'

Gurian & Ballew continue that it is necessary to 'encourage teacher authority: Especially in dealing with boys, teachers should carry powerful authority, whether in personal charisma or in consistency, academic quality, and intuition of teenagers' needs' (Gurian & Ballew, 2003, p.80)

Dweck is an advocate of using praise wisely. She points out that praising talent or intelligence has not yielded benefits, whereas in order to create learners who are resilient and hardy, it is necessary to praise the process the children engage in, as well as focus, study,

improvement and perseverance. (Mueller & Dweck, 1998; Dweck, 2006)

Dweck illustrates the importance of developing a growth mindset in Blackwell et al., (2007) when students who were not taught growth mindset continued to receive declining Mathematics grades, contrasted against the sharp rebound attained by those who were taught growth mindset.

Dweck refers to the outstanding results from teaching growth mindset and asserts 'This happened because the meaning of effort and difficulty were transformed'. Whereas previously 'effort and difficulty made them feel dumb… but now… that's when their neurons are making new connections, stronger connections. That's when they're getting smarter.' (2014)

Grit is a trait said to combine persistence with a long-term goal, where one has a great commitment to achieving the goal with high interest and low instant gratification. (Duckworth, Peterson, Matthews & Kelly, 2007). 'It was this combination of passion and perseverance that made high achievers special. In a word, they had grit.' (Duckworth, 2017, p.8). Duckworth describes grit as 'passion and perseverance for very long-term goals. Grit is having stamina. Grit is sticking with your

future, day in, day out… for years – working hard to make that future a reality. A marathon not a sprint.' (Duckworth, 2013).

Duckworth stresses the importance of effort. She acknowledges that talent is important, but stresses that talent x effort = skill and that skill x effort = achievement, showing the importance of invested effort. These equations ignore outside factors such as luck or opportunity, but Duckworth acknowledges that a dedicated teacher (or coach) may be a contributory factor. Someone who is particularly hardworking may achieve a higher standard than a naturally gifted person, due to their effort. (2017) Consequently, grit is associated with lifetime educational attainment and academic performance at elite universities (Duckworth et al., 2007), as well as, together with life satisfaction, predicting teacher effectiveness (Duckworth, Quinn, and Seligman, 2009).

Duckworth (2017) articulates the four key characteristics of a gritty person:

- Interest and passion. Research has shown that people are more satisfied and perform better in jobs that interest them and that college students who have personal interests within their degree field are less likely to drop out. It is important for a gritty

person to enjoy what they do and understand their interests will develop and mature.

- The ability to practice. It is important to dedicate time to practice, but towards a goal – what Professor Ericsson terms 'deliberate practice' – always striving to be better.
- Purpose – Interest and purpose are sources of passion. Duckworth describes purpose as 'the intention to contribute to the well-being of others.' (p.143)
- Hope. This is the 'expectation that our own efforts can improve our future' and a crucial element of perseverance, where gritty people get up again rather than resorting to the belief of luck (p.169). Duckworth summarises that 'a fixed mindset about ability leads to pessimistic explanations of adversity… In contrast, a growth mindset leads to optimistic ways of explaining adversity, and that, in turn, leads to perseverance and seeking out new challenges that will ultimately make you stronger.' (pp.191-2) Duckworth recommends the sequence to develop hope begins with growth mindset and follows with optimistic self-talk, leading to perseverance over adversity. She believes it is crucial to *'update your beliefs about intelligence and talent'* (p.192)

Duckworth tells us that in trying to grow grit, children initially imitate their parents, which develops with age to a child trying to emulate – to equal or surpass (especially a person that one admires). In order to raise a gritty child, one must be gritty, but it is worth remembering that children have many other adult influences, especially in a boarding school.

Children are involved in many activities outside the school curriculum and Duckworth identifies that such children do better overall, developing confidence, commitment and their abilities. To properly develop grit, one needs to dedicate years to practice, rather than the odd term.

Duckworth concludes that one can grow their grit "'from the inside out'… developing daily challenge-exceeding-skill practice", particularly by connecting your work to a purpose. It is also possible to develop grit 'from the outside in' where developing your grit relies on teachers, mentors, parents, bosses and friends. (2017, p.269).

Duckworth encapsulates grit as 'to hold fast to an interesting and purposeful goal… invest day, after week after year, in challenging practice. To be gritty is to fall down seven times, and rise eight' (2017, p.275)

Christensen and Knezek (2014) point to six Duckworth et al., studies in 2009 in which it was found 'grit scores did not differ between genders', but that "Perseverance of Effort was a superior predictor of GPS (grade point average), extracurricular activities and (inversely) television watching among adolescents" (Duckworth & Quinn, p.172) in Christensen & Knezek, 2014, p.17. However, Christensen & Knezek found significant gender differences in their study 'Comparative Measures of Grit, Tenacity and Perseverance' with data trends indicating females scored more highly than men on three of the four primary scales: study habits, perseverance and grit interest, whereas, men scored more highly for persistence. They point to persistence as being focussed on '"winning the challenge" while the other three focus on consistency of interest over time, having good study habits, and steadily persevering in pursuit of a goal.' (p.27)

Guy Claxton (2002) tells us that to develop learning power, we need to develop four aspects of students' learning:

- Resilience – to be ready, willing and able to lock on to learning
- Resourcefulness – to be ready, willing and able to learn in different ways

- Reflectiveness – to be ready, willing and able to become more strategic about learning, and
- Reciprocity – to be ready, willing and able to learn alone and with others. (p.17)

In order to develop these qualities, Claxton suggests the use of explanation, commenting, orchestrating and modelling to create a classroom culture promoting building learning power. Claxton maintains it is possible to get smarter and build learning power, which concurs that intelligence is not fixed and the ability to learn can itself be learned. This concept is not just for the classroom and the capacity can be utilised in all areas of a student's life.

Building learning power affects the way that teachers plan their lessons, focus their attention on learning and what is valued – for example, instead of displaying the finished piece of work, there may be various drafts, showing the progress of the work and how the final piece was achieved. It will affect teacher talk, where the focus is not on work per se, but how that is achieved, what processes are used and how the student can be helped. The teacher will create a sense of partnership with the students, encouraging them, creating a team

atmosphere, celebrating a student's development as a learner and helping the students set challenging but realistic targets.

It is apparent that a plethora of research, written over many decades, exists to address a school-based gender gap, yet one still exists. Much has been made of learning styles, with the assertion that learners usually adopt and can be classified by their learning style. This school of research and classification became very popular and often learners were categorised as visual, auditory or kinaesthetic. However, many researchers dispute and have discredited the efficacy of the learning-style theorists and highlight the opportunity cost of the learning-styles myth. (Younger et al., 2005; Willingham, 2009; Reiner and Willingham 2010; Newton, 2015)

In addition to the common myth that boys have different learning styles, Pinkett and Roberts (2019) identified and derided that learning should be made relevant to boys' interests and boys like competition.

However, in studies of how memory works, Carol Dweck's *Mindset* (2006) is often cited. Dweck has studied motivation, personality development and why people with similar intellects perform differently, particularly when faced with difficulties (Dweck and Leggett, 1988). Those who believe their intellect, skills and abilities

can be cultivated through their efforts and help from others are said to have *growth mindset*, whereas those who believe their qualities are immovable are deemed to have a *fixed mindset* (Dweck, 2006). Students with a growth mindset understand that their qualities are improved with effort and that practice and their ways of coping with life, but particularly coping with failure, allows them the potential to grow. A fixed mindset is a barrier to persistent effort.

If students are taught perseverance and effort are crucial to success and that any failure is a learning experience from which they can grow, then a growth mindset is key to self-esteem, motivation and resilience.

Rosenberg developed a self-esteem scale, which may allow us to correlate mindsets with self-esteem and is a useful measure for different stages in the intervention to allow us to correlate academic results with self-esteem.

Mindsets are learned and can be changed and Dweck (2006) identifies the words and actions of teachers can create a mindset. Great teachers believe intellect and talent can be nurtured and have a role in the development of a student. Dweck (2006) confirms that effective teachers set high standards and have high expectations of students. A defining factor appears to be the relationship a student has with the

teacher, to produce a 'productive partnership… and affective relationship (Reichert and Hawley, 2009, p.38). (Gurian, 2003; Martins, A., 2003; Andrus et al., 2018).

Duckworth (2017) stresses the importance of effort and acknowledges that a dedicated teacher may be a contributory factor to achievement. She identifies the four key characteristics of a gritty person as interest and passion; the ability to practice; purpose; hope. It seems that young people facing public examinations need hope, particularly if they are low ability students. As a teacher I must make time for the students to practice and with purpose – redirecting and addressing poor behaviour and also create interest in their studies to develop their grit. Grit as a trait combines persistence with a long-term goal, which requires commitment to achieving a goal with high interest and low instant gratification (Duckworth, Peterson, Matthews & Kelly, 2007).

There is the challenge.

Methodology

In order to attempt to address behaviour for learning with a view to improving boys' engagement and attainment in education, I undertook interventions within my own classroom, but also in collaboration with

colleagues in the focus school. As well as addressing my own classroom practice, I performed two duties per week attached to the Social Inclusion Area. These duties meant I would be called to lessons where behaviour had broken down to the point that the teacher asked for outside assistance and either remove a student or preferably, take an objective view of what had happened, discuss the behaviour with the student and teacher and, if possible, reintegrate the student. The time allocated for this duty also meant I could join lessons and offer support to both teachers and pupils, particularly where it was known there was likely to be a breakdown in learning and to see some of my class in different learning environments. I was asked to perform learning walks, entering other teachers' classrooms for a short period to observe the lesson and feedback later, which gave a good platform for collaboration.

The cycle of interventions would involve adapting teaching strategies in line with the literature review and collaborating with other teachers, supporting them as necessary.

I planned effectively to address previous disengagement and low marks by managing class behaviour appropriately, increasing the level of challenge, asserting my expectations and introducing a level of hope

and confidence in the students. I introduced a culture where effort is rewarded and mistakes were seen as learning opportunities, rather than a reason to mock peers, where students were self-reflective and learned from these. I challenged students individually, rather than initiating competition, to reinforce expectations and encourage them to develop the qualities of both a growth mindset and grit.

If not affected by Covid, my focus group would have been a different class, but I have adapted my project to be able to present some results. If Year 11 had been the focus group, I would have given the students questionnaires to establish self-esteem and 'grit' at the beginning of the intervention, after the first cycle and then at the end of the course. The adapted first cycle would cover a half term's work, culminating in a Language mock examination and a later cycle would have taken place after Literature had been revised and I could address the gaps in their Language learning individually.

I will be analysing data from the Language paper examination the class took in June 2019 and comparing it to their mock examination and ultimately, their GCSE public examination results. The lack of public examinations took away the opportunity for the focus group to outperform expectations. I would have liked to have the class

complete the Rosenberg's Self-esteem and Duckworth's Grit questionnaires before the interventions, after the first and second phases and be able to see if there was correlation with a student's self-esteem and grit and their performance.

Effect of Covid-19

It was originally intended to focus on a Year 10 top set of 30 students, with a secondary focus on a Year 11 lower ability set. I was teaching Literature to the Year 10 class and the curriculum was set to include mock examinations, which would have been crucial to my research. However, the school closed to all students except vulnerable children and children of key workers in March and for the rest of the school, we moved to an online offering. It was a very strange time for students and staff and the levels of engagement across the school were variable and in many cases poor. The Mock Examination was cancelled and there was no independent evidence for this class.

At this time, teachers were told to accept whatever work came in, not to follow up missing work individually or with parents and nor note missing work on the management Information system. Unfortunately, some students took advantage of this to either produce poor, little or no work. This effectively made using the Year 10 group impossible.

I taught English Language to a lower ability Year 11 set. Originally, I decided to concentrate on Year 10 for this research, as the Year 11 class would be taught Language and have a very early mock examination, after which I was to teach Literature and revise the nineteenth century novel and play. Whilst I would have results from the early mock, the GCSE results would not be available until much later in the year, whereas the Year 10 mock would take place only after I had taught both the novel and play and was well positioned time wise.

As a result of the closure due to Covid, despite missing events from the Year 11 class, it is more practical to concentrate on this class using their mock examinations and GCSE grades. However, cancellation of the GCSE examinations means that the students missed the examined component and the opportunity to improve their grades further after a second intervention. It also means that planned questionnaires have not been conducted and whilst I gave some consideration to asking the class to complete them, I thought it unethical for them to do so at the same time I would be deciding and negotiating with colleagues over their Teacher and Centre Assessed Grades to be entered to the Examination Board.

Whilst I have involved my Head of Department and Line Manager in my research and teaching over the year and collaborated in other ways, I was asked to lead some Inset training by the Deputy Head Academic and the Director of Teaching and Learning. This would have been either whole school or a smaller teaching and learning community but has not yet taken place due to the school's closure.

On a personal level, as well teaching online, I initially participated in the running of a co-educational boarding house for vulnerable children and those of key workers, aged between 7 – 18 years old and when the numbers became too great for one house, took responsibility for managing the boys' boarding house. We provided holiday programmes out of term time to ensure the children were kept safe and well cared for.

Sample demographic

The Year 11 class consisted initially of 22 students, 14 boys and 8 girls. The students were a low ability set in a non-selective school, which specialises in educating vulnerable children. From the initial 22, two girls were school refusers, one was never seen during the year and a second only attended two lessons. She was sent work electronically but did not respond. A further girl was moved up a set due to her

performance and another left the school. Consequently, it is more accurate to say there were 18 students, 14 boys and 4 girls.

The students were highly demotivated generally, but specifically in English, where they complained of spending time just filling in work sheets. Every student had underperformed in their Year 10 examination (a previous GCSE Language paper) against their Minimum Expected Grade (MEG) by a minimum of one but up to three grades. Their Year 10 teacher was frustrated with them and wanted to move away from teaching them as the relationship between the class and the teacher had suffered. The class believed they were incapable of achieving in English Language and were frustrated, leading to a poor attitude for learning and behaviour.

The class comprised:

- One Asian girl
- One black African girl
- One Mixed (Other) girl and
- One white British girl
- Four black African boys
- Two black Caribbean boys
- Two black (other) boys

- Four white British boys and
- Two white European boys.

Of the 14 boys, six boarded and eight did not and of the four girls, two boarded and two did not.

I taught the class Language for three 50-minute periods per week and a colleague taught them Literature for three periods per week.

Questionnaire methodology

I had originally intended to use a questionnaire with open ended questions to examine the subject group's attitude and ideas around what motivates boys and their views of how they learn best. Whilst open-ended questions may be well suited to small scale research and there was the hope that the results may produce something insightful from the class themselves, there was the issue of data-handling and reporting, together with the vast database of studies already completed. (Cohen, Manion & Morrison, 2018)

Instead, I would have used two questionnaires before the intervention and again after the Mock and preferably after Examination results to establish the levels of self-esteem and grit for each student and to see if there had been development and whether or not there was

correlation between their self-esteem and grit levels and their performance.

To measure grit, I would have used the questionnaire developed by Duckworth, initially for her study at West Point, but used elsewhere and freely available on the internet:

Grit Scale

Here are a number of statements that may or may not apply to you. There are no right or wrong answers, so just answer honestly, considering how you compare to most people. At the end, you'll get a score that reflects how passionate and persevering you see yourself to be.

	Not like me at all	Not much like me	Somewhat like me	Mostly like me	Very much like me
1. New ideas and projects sometimes distract me from previous ones.	5	4	3	2	1
2. Setbacks don't discourage me. I don't	1	2	3	4	5

give up easily.					
3. I often set a goal but later choose to pursue a different one.	5	4	3	2	1
4. I am a hard worker.	1	2	3	4	5
5. I have difficulty maintaining my focus on projects that take more than a few months to complete.	5	4	3	2	1
6. I finish whatever I begin.	1	2	3	4	5
7. My interests change from year to year.	5	4	3	2	1
8. I am diligent. I never give up.	1	2	3	4	5
9. I have been obsessed with a certain idea or project for a					

short time but later lost interest.	5	4	3	2	1
10. I have overcome setbacks to conquer an important challenge.	1	2	3	4	5

To calculate a person's grit score, add the sum of points per answer and then divide the total by ten, giving a maximum possible score of 5. A score of 1 would be the least gritty and 5 extremely gritty.

Duckworth produced a table showing the scores of a large sample of American adults:

Percentile	Grit Score
10%	2.5
20%	3.0
30%	3.3
40%	3.5
50%	3.8
60%	3.9
70%	4.1

80%	4.3
90%	4.5
95%	4.7
99%	4.9

As we know, grit comprises two components: passion and perseverance. It is possible to calculate the passion score by adding the points for the odd-numbered questions and dividing by 5, similarly, to obtain the perseverance score, add up the points for the even-numbered questions and divide by 5. (Duckworth, 2017, pp.54 – 57)

Rosenberg's Self-Esteem Scale

	Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
1. I feel that I am a person of worth, at least on an equal plane with others.	3	2	1	0
2. I feel that I have a number of good qualities.	3	2	1	0
3. All in all, I am inclined to feel that I am a failure.	0	1	2	3
4. I am able to do things as well as most other people.	3	2	1	0
5. I feel I do not have much to be proud of.	0	1	2	3
6. I take a positive attitude toward myself.	3	2	1	0
7. On the whole, I am satisfied	3	2	1	0

with myself.				
8. I wish I could have more respect for myself.	0	1	2	3
9. I certainly feel useless at times.	0	1	2	3
10. At times I think I am no good at all.	0	1	2	3

The Rosenberg Self-Esteem Scale is the most widely used measure of self-esteem for research purposes, but it is not a diagnostic device. It does give a picture of a person's state in relation to others.

The questionnaire employs a ten question Likert-type scale, with four possible answers ranging from 'Strongly Agree' to 'Strongly Disagree' and asks students to reflect on their position within the community. Five of the ten statements are positive (1, 2, 4, 6, 7) and attract the highest scores for 'Strongly Agree' down to the least for 'Strongly Disagree'. Conversely, five are negative statements (3, 5, 8, 9, 10) and attract the highest scores for 'Strongly Disagree' down to the least for 'Strongly Agree'. The instructions ask that the questions should be answered reasonably quickly without overthinking.

The points attributed to answers should be totalled and will be within the range 0 – 30. The higher the score, the greater the level of self-

esteem, with scores between 15 and 25 deemed to be within normal range, whereas scores below 15 suggest low self-esteem.

By using an existing questionnaire, with closed-ended questions, it allows objective and rapid analysis which is free from subjectivity bias (Mitchell & Jolley, 2013).

Observation methodology

I was fortunate enough to be allowed to conduct observations in various formats. I was asked by the school to conduct learning walks, where I entered a classroom for approximately 15 minutes and matched what I saw against the 6 criteria the school uses for observations:

- Assessment for Learning
- Challenge for all
- Positive atmosphere
- Effective questioning
- Purpose
- Progress

I also peer observed a colleague in the Primary School, and he observed me. We were in the same Teaching and Learning community which read, discussed and put into action some of the ideas from

Duckworth's 'Grit Why passion and resilience are the secrets to success' (2017).

I performed two Social Inclusion Area (SIA) duties each week, which at times were reactive to issues within a classroom, but at other times a proactive presence to help improve behaviour for learning.

In turn, I was also observed during learning walks and formal observations, which formed a basis for discussion and collaboration.

Learning walks were structured and the criteria I was looking for was known to the participants, although the day and time of my visit was unknown. Whilst I was in the classroom, my role was to observe and note the criteria being used in the lesson or evident in the exercise books. In contrast, SIA duties were often reactive to an event and a proactive and immediate intervention was required in order to establish order within the classroom and ensure all students could return to learning. There were times when it was possible to join a class and observe proceedings, but the onus was on helping to provide an atmosphere conducive to learning.

Ethics

My research was conducted within British Educational Research Association (BERA) 2011 guidelines, after obtaining ethical approval

from University of Oxford's CUREC committee (Appendix C) and permission from the school's Head teacher (Appendix A). According to the modus operandi covering educational research, this study is deemed to be within the normal practice of teachers and therefore, did not require parental consent.

The purpose of the study was explained to staff and students and permission to use school data was granted by the Senior Leadership Team. I explained the study to three classes as I had intended to use a different target group due to data collection points, but due to the restrictions of Covid-19, was forced to adapt my study and concentrate on the Year 11 group. Consequently, the group's informed consent was obtained, and the research was equitable, despite the focus being boys' attainment (Graham et al., 2013). Non-maleficence is a guiding precept in educational research (Cohen et al., 2018).

One aspect I was particularly conscious of was my position and power over the children. As their teacher, I decided the schemes of work, lesson plans and delivery. The class was very diverse and included some vulnerable children. I did build a good relationship with the class, developing trust and rapport. Due to the Covid-enforced change

of the focus group, I was left without the questionnaires determining self-esteem and grit and whilst it would be impossible for the children to complete questionnaires before the intervention began, it was possible to complete one afterwards and then analyse the results in relation to attainment and improvement. However, as the focus group was now Year 11 and I was in the process of deciding teacher assessed grades and collaborating with departmental colleagues to produce a centre assessed grade for submission to the examination board, I felt it unethical to ask the students to complete the questionnaires and that the results may well be unreliable, either due to a perceived pressure, a willingness to please or the passing of time.

The data collection methods of observations, questionnaires and data analysis were designed to have as little impact on staff and students' time and workloads. I have protected participants' identities and all data is presented in an anonymised form and stored in password protected files.

Findings & discussion

Teaching intervention

Gurian and Ballew (2003) remind us of the importance of discipline for secondary students in their journey to self-management, particularly with boys. I established ground rules with the class, but made my high expectations known to them and explained there would be consequences if they chose not to engage in classwork or Prep. I explained anecdotally about previous students who believed they could not do well or were predicted not to achieve, who went on to perform well – not just in examinations, but life. By doing so, I wanted to convey growth mindset ideas and give the students hope. I used a range of examples from students who all now have various forms of success, whether a rugby player or someone who had started their own business and was now featured in Vogue, as well as the car mechanic and coach driver. It was important that the classroom atmosphere was conducive to work and that everybody felt they could contribute equally, without others ridiculing them for getting answers wrong – and starting to understand that it can be a good thing to make a mistake, if we use it as an opportunity to learn - or asking questions and that the class had an understanding of the need for targeted effort from them. In allowing everyone access to learning in the classroom

and developing a co-operative, it reduced some of the stress that was mentioned about the previous year and seen in other learning environments.

Initially, a large element of the class chose not to complete the Prep set, to prepare for learning by writing a guide sheet to parts of Language Paper 1. This resulted those students receiving an after-school detention to complete what was required. I explained to the class that the Head of Department ran a 45-minute detention every week and he was very happy to have the class join him. The Head of Department knew the students well as he taught Literature to them for three periods a week. It was essential to make clear my high expectations of the class and to establish new boundaries for them immediately. Whilst there were some children who struggled to complete prep, the students gradually started to produce it more regularly and as they grew more confident and engaged, the quality and quantity improved as well.

Some of this class knew me as their Head of House – four boys boarded with me and several others were day students from my House. This allowed me a better knowledge of these students, where a 'connection' already existed and they were aware that my

philosophy was for them to be the best they can be, academically, socially and in sport (Pierson, 2013). Reichert and Hawley (2009) liken teaching boys effectively to a dance needing a 'productive partnership' and 'affective relationship' (p.38). Raider-Roth (2005) introduces the concept of a 'relational learner', asserting that the learning self is constructed within the relationships in school (p.21), whilst Gurian & Ballew (2003) articulate one of the needs of a high school student as 'A firm and loving teacher, who genuinely cares about each student and shows it' (p.80). Martin (2003) affirms 'particularly critical to students' engagement and motivation… was their *relationship with their teacher'* (p.54).

Gurian & Bellow (2003) remind us of the importance of discipline for secondary aged students, articulating it is 'a crucial, holistic process of adult-hood maturation' and 'the last chance to develop limits and self-management (self-discipline)' (p.70). This was particularly important for this class, who needed their boundaries re-framed and to feel that someone cared sufficiently about them to lay out ground rules and sanction if necessary, whilst setting high standards, but helping them reach them individually by personal feedback and targets. The learning environment was crucial to students feeling relaxed enough

to give answers and if they were wrong, to learn from that experience and accept they had helped others' learning too. Gradually, the learning environment improved to become cooperative and collaborative.

When on SIA duties, it was necessary to 'encourage teacher authority'. Gurian & Ballew (2003, p.80) make clear that 'especially with boys, teachers should carry powerful authority, whether in personal charisma or in consistency, academic quality, and intuition of teenagers' needs'. At times, it was necessary to lend some of my attributes to the classroom and then speak with the teacher at another time about behaviour management.

Students bring varying emotions and beliefs about a teacher to their first lesson and so it was important to me to initiate strong, professional relationships that would allow me to enable the children to unlock their potential. It was incumbent on me to find out about each student, in order to gain some understanding of who they were, what had affected their lives to date and their interests. I did this by asking the class to prepare a short speech about themselves to present to the class, as a practice for the speaking element of the Language GCSE. I recognised this was easier for some students and reached out

to those who found it more difficult, which, initiated a relationship. It was essential that the students realised they were not defined by their previous results in the subject and that, with effort and determination, they were all capable of improving.

It was good to have a better understanding of the class and their interests, because it allowed me to design activities that held relevance to the students or allow them a choice of subject to allow them to tailor the activity so that there was connections to their lives and students could 'meaningfully integrate their own experiences' (Andrus et al., 2018, pp.49-50)

It was interesting to note the change in attitude of the class as they grew to know me. They were cheerful to see me around school and very compliant if I walked into their classroom on SIA duty. They looked to replicate the relationship we had in the English classroom elsewhere in the school and whereas sometimes the arrival of the member of staff on SIA duty could be seen as authority arriving and perhaps even confrontational, the students in my Year 11 class tended to smile and relax. This often helped de-escalate any situation, which allowed an issue to be resolved quickly and learning to continue. It also meant that I could sit beside someone who was struggling either

academically with the lesson or pastorally for some reason and offer support – sometimes just by being there.

It was interesting to see different teachers working with the same children. Whilst I observed some very good teachers, those the children engaged with best and were motivated to work for, were those where the students felt they had a relationship with, affirming Martin's assertion 'Particularly critical to students' engagement and motivation in a particular subject was their *relationship with their teacher* (Martins, A. 2003, p.54). It is worth stressing that the relationship students valued included those teachers who were deemed to be 'tough and demanding', producing a 'productive partnership… and affective relationship' (Reichert and Hawley, 2009, p.38). Andrus et al., (2018) when analysing successful characteristics of lessons for girls, concurred they are likely to be 'fully engaged by caring teachers who set high standards and provide ample ways to meet them (p.49).

These students performed poorly as Year 10 students. They felt they had little intelligence or chance of passing the GCSE examination. They were unused to praise and so initially I praised the process of their learning and showed delight when I received work from them,

encouraging them and fostering a will to do better next time. I then ensured to praise targeted effort, where the student was showing progress as a result of applying techniques learned in class, or as a result of targeted feedback to enable their individual growth. This, in turn, encouraged engagement, focus, perseverance and consequently, resilience (Mueller & Dweck, 1998; Dweck, 2006). Deci, Koestner and Ryan (1999) outline that our actions can foster or thwart the well-being and personal growth of others and assert that intrinsic motivation maybe increased as a result of offering positive feedback and encouragement by strengthening a person's feeling of confidence, which is a major determinant for personal growth, showing an educational setting can help a self-determined perspective. In doing so, I saw the buds of hope and confidence from within the class, particularly the boys.

I used Dweck's studies to stress the importance of developing a growth mindset and constantly impressed on the class that intelligence, ability and talent was not fixed, but would improve with effort. I made sure that feedback was individual and tailored to each student and incorporated an element of challenge, requiring a student response. It was imperative that students saw mistakes as part of

their learning journey and used them to develop their knowledge, skills and ability. Ultimately, this process helped develop resilience – one of the four key aspects of developing learning power, cited by Claxton (2002).

I made sure to use the language of growth mindset as a model to the class and would challenge fixed mindset language by reframing it and showing the student a different way to express their feelings, without denying their voice. In doing so, I encourage the student to move away from the fixed mindset and towards the possibility of change and improvement offered by growth mindset. I had growth a mindset word display in the classroom to help the class develop a vocabulary to aid their mindset.

It was essential that the students viewed challenges as good, as an opportunity to develop their intelligence, rather than something to be avoided. Similarly, I wanted the class to recognise that mistakes or failures were in fact, opportunities to learn. This was particularly evident when a student performed poorly on a Language paper practice question. From the frustration of getting it wrong, the students began to see the opportunity for improvement in marks and understanding. They were keen to know why they had not achieved

more highly and began to interrogate the mark scheme to understand the nuances of what was required. At times, they realised time management was at fault and we looked at strategies to effectively manage time in an examination. Suddenly, from being a class with no motivation, and allegedly used to just filling in worksheets, they were engaging in their own learning and motivated to improve.

Whereas the class initially had been resistant to working together, wanting a competitive environment and even mocking peers occasionally, they saw the value in peer marking and working collaboratively in order to improve their understanding and subsequent attempts to answer practice questions. I tried to develop a challenge culture within the classroom, without resorting to competition. There was a varied cross section of boys in the class, ranging from talented athletes and sportsmen who relish competition and had experienced success (although not necessarily in English) to those who were weak or infirm and who felt they had achieved very little they were proud of and who would shy away from competition. A major concern for me was that competition per se, harms the ability to collaborate within the classroom and leads to painful lessons of failure and disappointment being reinforced, risking disengagement

(Pinkett & Roberts, 2019; Younger et al., 2005). Competition when viewed like this may harm cooperation and collaboration, which it is argued, helps girls perform better than boys , sustaining and supporting more effective learning. Younger et al. (2005) identified the harm a competitive environment could do to cooperative modes of learning, particularly discussion and collaboration and this was borne out by the class. Deci, Koestner and Ryan (1999) warned that our actions can foster or thwart the personal growth and well-being of others and it was crucial that the class in effect became a team supporting each other and learning from one another.

Willingham (2009) and Rosenshine (2012) express that extended practice is way to mastery, Yazzie-Mintz iterates that 'students' effort, investment and strategies for learning… can be described as *engagement of the mind*' (2006, p.7) and Fredericks et al., asserts 'cognitive engagement draws on the idea of investment; it incorporates thoughtfulness and willingness to exert the effort necessary to comprehend complex ideas and master difficult skills' (2004, p.60). It was crucial to create the correct environment to allow the students to work collaboratively and enjoy each other's success. I believe this was shown to be successful when the class began writing

and practicing for the spoken language element to their GCSE. The class had understood that engagement, investment and collaboration had shown results in the classroom and in their own achievement and were, therefore, more willing to collaborate and take risks when writing, sharing and rehearsing their speeches.

Rosenshine (2012) developed instructional suggestions to teachers which should underpin excellent practice. The principles are an excellent reminder but not a lesson template and as Gibbs (2020) asserts the outstanding teacher uses 'their own teaching style… to deliver truly engaging, motivating and exceptional lessons'. Covington reminds us that motivated students are likely to be engaged (2000a)

Duckworth (2017) tells us that children imitate then emulate adult figures in their lives – initially parents, but also a person that is admired. She asserts that it is possible for young people to develop grit with the assistance of others, such as teachers and parents – 'from the outside in' (p.269). When considering the four characteristics of a gritty person: interest and passion, the ability to practice, purpose and hope - it is possible to understand how teachers can play a major role in inspiring young people and helping to develop these characteristics. The students' purpose, as they saw it, was to pass an English Language

GCSE, but they felt they had little hope. By encouraging and reframing the fixed mindset mentality, it was possible to allow the class hope to achieve their purpose. I provided the opportunity and framework which allowed them to practice and become more encouraged as they saw their results and understanding improving. This in turn sparked their interest and whilst I cannot claim the students were passionate about the English Language, they were encouraged, attentive and more engaged as time went on. It was pleasing to see their development in confidence and self-esteem, and I would have liked the Rosenberg Self-esteem Scale questionnaires to evidence the improvement quantitatively.

Self-esteem is an important factor for an individual's development academically and pastorally, and why ideally, I would have measured each student's response to the Rosenberg Self-esteem Scale. Opportunities to develop self-esteem present themselves outside of the classroom as well as inside. One of the focus class students was also a boarder in my House. There had been issues with a roommate and a room change was needed. The student was in a two-man dormitory, with another student he could dominate in many spheres of boarding life. In assessing the student's needs, I decided it would

be better to move him away from an area he was comfortably controlling and place him in a four-man dormitory, with more confident boarders, including one other from the same class. In shaping meaningful social interaction, it allowed this student to develop confidence and friendships, building his self-esteem and giving him the courage to participate more fully in the classroom. It also solved the issue in the boarding house and encouraged this student to take responsibility within the house.

The school provides an excellent co-curriculum programme, which the students would have been more actively engaged in lower down the school. They can curtail their activities in Year 11 as recompense for the extra workload as they approach public examinations, but instead, academic clinics are provided to support the students' learning. The diverse co-curriculum programme allows children to experience a variety of activities, which Duckworth (2017) maintains develops confidence, commitment and students' abilities, in turn enabling such children to do better. It is known that those who participate in extracurricular activities outside the school day achieve more highly than their peers (Finn, 1993; Fredericks et al., 2004). As a

Housemaster and teacher, I like to recommend a range of activities to students to help them achieve the benefits expounded here.

The school also provides academic mentoring for those students at greatest risk of underperforming. Usually a teacher would mentor two students in either Years 11 or 13 and follow a prescribed set of interactions designed to help the student focus on their revision, help with revision techniques, understand what they need to do and where to focus their time and also to help develop growth mindset and grit, with the belief that with effort they can develop their intelligence and be rewarded in public examinations.

Duckworth itemises practice as one of the four characteristics of a gritty person. As teachers we can arrange time for students to practice, be it in the classroom or as prep. However, as Duckworth asserts, it is 'not just about *quantity* of time… but also *quality* of time' that is spent on tasks in order to develop skills. In developing activities, Covington & Teel (1996) argue for reframing rewards against success criteria, rather than relative to peer performance and one of the most obvious ways of engaging students is to ensure schooling is based around their personal interests. In designing tasks and allowing a degree of choice, it engaged students better than providing one task

for all. In part, choices were arranged around differentiation but also allowed for students' interests. In judging success or failure against success criteria, rather than relative to peers, Covington argues is motivating as any shortcoming is seen against a goal, rather than as a person (2000b).

Similarly, emotional engagement alludes to students' affective reactions in the classroom (Skalsky, 2009; Fredericks et al. 2004) and Fredericks continues that cognitive engagement draws on the idea of investment. Skalsky (2009) professes that a student's motivation increases when they see the future potential benefit of their efforts. As the class grew in confidence and their demoralisation slowly ebbed to become hope, they became more engaged.

Gurian (2003) illustrates that the adolescent brain is still developing and needs attachment and bonding from educators. We are cautioned to know our students' backgrounds well and be careful what we say. This was particularly important in the focus school and with this class due to the school's reputation for dealing with vulnerable children. Gurian advocates taking an interest in students and assures that 'memory is enhanced if an adolescent feels emotionally cared for' (2003, p.50).

Results

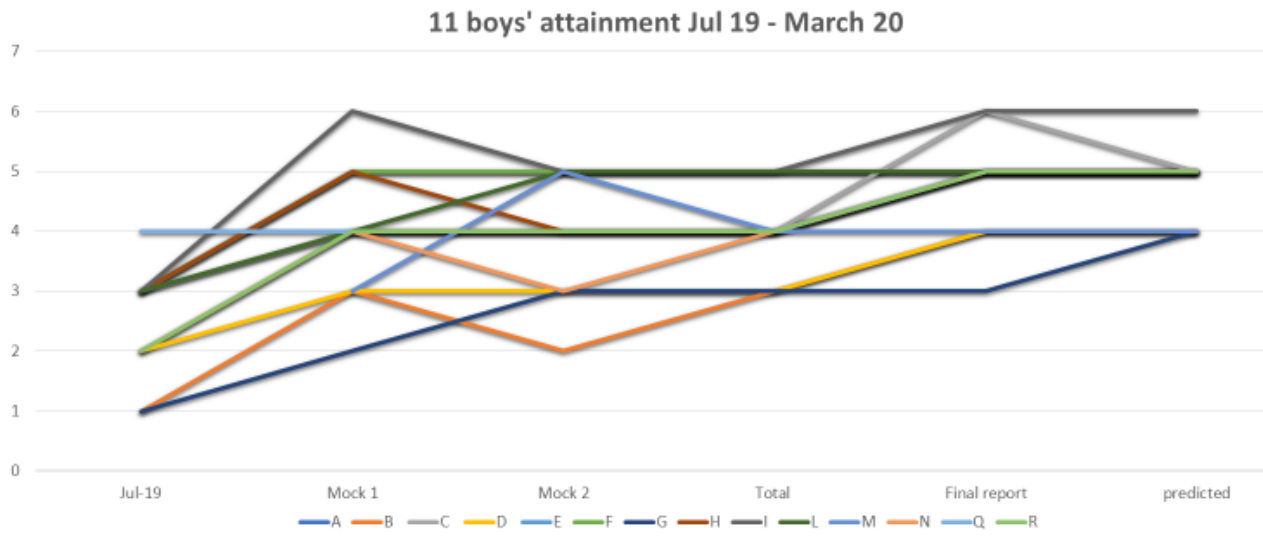
This graph plots the boys' attainment from their end of Year 10 marks through to their predicted GCSE grade, with points plotted for their Mock Language Paper 1, Language Paper 2, Total , their final report grade and predicted or Teacher Assessed Grade.

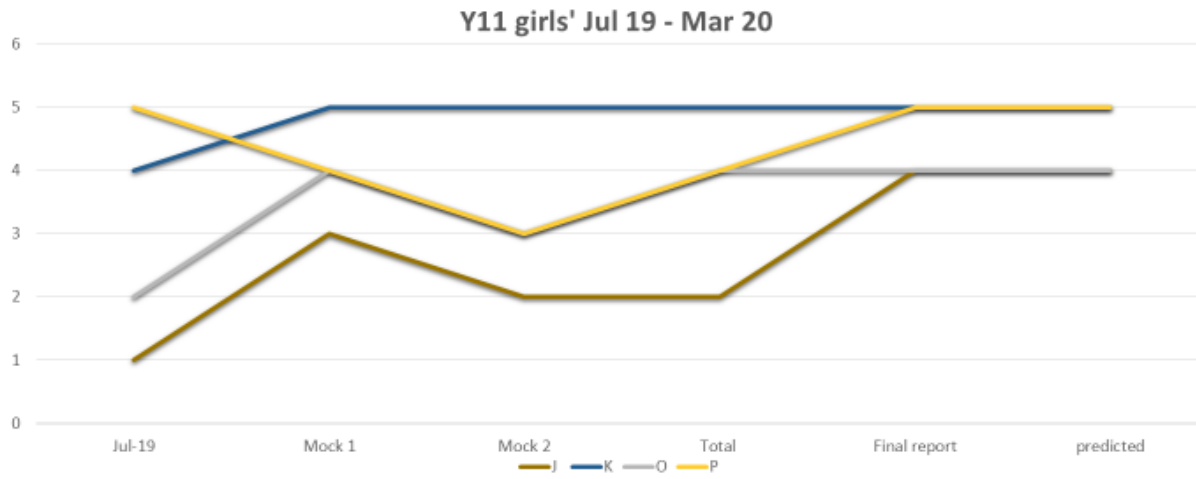
At June 2019, only one of the boys received a grade 4 or above, but by the end of the time, every boy was predicted and received a grade of 4 or better, with one boy achieving a 6. In terms of their achievement against their Minimum Expected Grade (which is externally generated), every boy except one met or exceeded his MEG.

I had hoped for data to be shared that showed how this class may have fared with comparable classes following my intervention, but unfortunately, this was not forthcoming. I recognise that there is generally a bounce in attainment in a student's final year of a GCSE course as they become more motivated by the 'fear' of approaching public examinations and consequently, this increase in attainment may in fact, be 'normal' progress over the timescale.

What was evident (but not measured by questionnaire) was the palpable increase in self-esteem from the individuals in the class. Had this been the initial target group, I would have asked the class to

complete the Rosenberg Self-esteem questionnaire and Duckworth's Grit questionnaire at the beginning of their time with me, after their mock examination and ideally when they received their results. It would have been interesting to correlate their scores with their performance over time.





I also plotted the girls' performance over the same timescale. All of the girls, bar one, increased their performance. One girl achieved the same grade in her predicted GCSE grade, as she did in the July 2019 examination, after dipping in the Year 11 mock examination. I looked back over her work and feel comfortable that her plot line does reflect her performance over the time period.

Teacher collaboration

When choosing this area of research, I discussed it with the school's Headmaster, Deputy Head (Academic), Director of Teaching and Learning and my Head of department. Initially I wanted to confirm that the intervention would be appropriate and confirmed that this

area aligned with the school's development plan. As part of the discussion, I negotiated time away from school to attend seminars and to be able to use my targeted classes and colleagues as part of my action research. In addition, I was asked to perform learning walks – spending 10 – 15 minutes in a class to observe the lesson and feed back to the teacher and the school using a form monitoring:

- **Assessment for Learning**: monitor, check, reshape; dialogue; success criteria; do students know how to improve? quality of marking; feedback
- **Challenge for all**: high expectations; targeted support; pace; prep develops learning; independent; resilience
- **Positive atmosphere**: enjoyment and relationships; talk about learning; routines evident; values led; rewards / sanctions
- **Effective questioning**: targeted; probing; skilful; hinge questions; inclusive
- **Purpose**: objective driven; big picture; context led; enthuses and inspires; modelling; explanations
- **Progress**: meeting / exceeding targets; student demonstration; no time wasted; plenary embeds learning

As a result of these learning walks and Social Inclusion Area duties, I saw various teachers and their learning environments, but importantly, it opened discussion on their lesson and pedagogical views, providing a base for further exploration and collaboration subsequently.

An example of where observation led to collaboration to benefit the outcome of a student was where one student was constantly in trouble in one teacher's class. I had observed this student in other lessons and also had pastoral interaction, leading to becoming this student's mentor. I used my knowledge of the student and the learning environment to draw from the student why the lessons were not working. I received a number of criticisms of the teacher, but also an honest acknowledgement of the student's shortcomings and poor behaviour. There followed a discussion using the principles of a growth mindset and the characteristics of the ability to practice with the understanding our own efforts can improve us, required for Grit (Duckworth, 2017). I offered support to the student to address concerns and be part of any meeting, with the teacher's agreement, and consequently the student arranged a meeting with the teacher during which they both expressed their viewpoints and reached a

better understanding. The teacher outlined the expectations for desired learning and outcomes for the student and the student was open as to why they believed the relationship did not work and the barriers to learning.

The relationship between the teacher and student improved, as did the student's behaviour, leading to an increased engagement and confidence in the subject and an offer from the teacher to support further on a one to one basis to address any lack of understanding. Consequently, the student's motivation and engagement improved and the teacher's relationship with the class got better – as friends of the student saw the teacher in a different light. (Yazzie-Mintz, 2006)

As part of the collaborative process, I was also observed on learning walks, formal observations and peer observation. It was good to receive an outsider's perspective on me and be able to discuss my qualities as a teacher and the interventions I had been using with my classes. It is through external observation that we receive the feedback necessary to develop.

The school has a number of Teaching and Learning communities. I belonged to a community of six people from various academic disciplines, five were secondary teachers and the other taught in the

Junior school. We collectively read Duckworth's 'Grit Why passion and resilience are the secrets to success' (2017) and discussed the book and how it could be applied to our own teaching.

One colleague, a science teacher, chose a Year 9 class who were just embarking on their GCSE course and dealing with much harder work than the previous year. The students had experienced a large learning curve and it was important to keep them engaged with the challenge. As a result of the group's discussions and collaboration, the teacher cited the following aims and strategies:

- To make work engaging with challenges as a way of receiving praise and tangible rewards. Plenty of verbal praise was given to those who worked hard, and it appears Year 9 like stickers, which also helped with instant v delayed gratification for long-term goals.
- Students were rewarded with credits for effort rather than outcomes e.g. a student working hard but not quite completing a low ability worksheet received as much praise as another student working comparably but finishing their worksheet and the extension task.

- Use the school policy for effort grades with homework – rewarding those who have worked hard.
- Common verbal reminders (or at times written on the board) that if the students are not finding the work difficult, then their brain is not being made to work, they are not making new connections mentally and they are not learning.
- The use of a variety of growth mindset posters as interesting reads during starter tasks or before AfL.

This teacher consciously changed her language when in discussion with students:

- You all have different starting points and can all make progress with the right attitude.
- You can learn from one another, so it is good to share successes and mistakes.
- You should choose the tasks that challenge you, because that is how you learn.
- You need to keep trying even when you are finding it hard because that is how you get better.
- You should not be afraid of a mistake or failure because it will help us all to do better next time.

- I really like the way you tried lots of different strategies to work out that tricky question until you got the right way.

As part of the group's collaboration, I paired with a colleague from the Primary department and we observed each other's lessons looking for evidence of our discussions of 'Grit' being used in the classroom, followed by a discussion on their effectiveness in that lesson and generally in our practice.

The Deputy Head (Academic) proposed that I share the knowledge gained from my research with colleagues and muted either leading an inset on closing the gender gap, or providing materials to enable a group of Teaching and Learning communities to benefit from my research, discuss it and make a concerted effort to close the gender gap. Unfortunately, due to Covd-19 this has not taken place but will take place in the future.

My Head of Department taught Literature to the same class and we spoke regularly about the class, the challenges we faced, which techniques were working for us, what we were teaching and how, so that we could make our lessons more relevant and allow greater choice of activities. As far as we could, we tailored the interaction with our students to ensure its relevance to students' lives which

allowed them to develop from their own experiences (Andrus et al., 2018). I have shared findings within my department.

Whilst collaboration takes place when moderating marking and grades, the Covid-19 outbreak led to a number of moderation meetings, where teacher assessment grades (TAG) were given, discussed, challenged, evidence for them demanded and ultimately ranked within each proposed grade, initially for higher, middle and bottom, but then with a position within each proposed grade's subset. Once decided, these became the Centre's assessment grade (CAG).

Conclusion

This research project has allowed me to engage with literature and develop a greater understanding of the research surrounding boys' attainment and the gender gap. There has been much research to address the gender gap in education, but as of yet, the gender gap still exists.

There are many strategies designed to improve boys' attainment, which lead one to believe that specific techniques and learning styles will address the issue, when the reality is erroneous ideas about gender difference are perpetuated. There also exist a number of

myths relating to boys' engagement, which although discredited over the last 15 years are still being expounded in training sessions.

It is said that boys like competition and consequently, teachers have been building competition into their lessons, encouraged by various training courses. There is no doubt that some boys enjoy competition, as will some girls, but for the majority it is a disheartening exercise which reinforces the student's feeling of inadequacy and potentially damages the ability to collaborate in the classroom. In 2005, Younger et al., argued that it was the ability to 'use interactive and cooperative modes of learning with emphasis on discussion and collaboration, working together… rather than in isolation' (p.53) in part that enabled girls to perform better than boys. I would argue that instead of competition, challenge is introduced instead.

Challenges create cognitive engagement for strategic learners by implementing strategies (Fredericks et al., 2004) and encourage higher level thinking skills. Challenges can and should be differentiated to the student to help develop their ability and intelligence and preferably with a choice range to incorporate the student's interests, particularly if learning is self-constructed.

The notion of making learning relevant to boys' interests is also problematic, as how do you define boys' interests? Who defines gender choices? The assumption that all boys like similar things reinforces stereotypes. In today's world the notion of gender is more fluid. Additionally, Willingham (2009) asserts that whilst content does not drive interest – it may initially prompt interest but is unlikely to maintain it. The need for extended practice is outlined by Willingham (2009) and Rosenshine (2012).

It has long been argued that boys have different learning styles and boys are often labelled as kinaesthetic learners, learning best when the lesson involves hands on activities and touch. Willingham (2009) clarifies 'the key prediction is that students will learn better when instruction matches their cognitive style', but 'overall the theory is not supported. Matching the "preferred" modality of a student doesn't give that student any edge in learning' (pp.155-6). Reiner and Willingham (2010) highlight the opportunity costs of the learning style myth.

Younger et al., (2005), underline a danger that because girls are often more cooperative and willing to learn, they do not need to be taught in similarly investigative and interactive styles. Research shows that

Reichert and Hawley (2010) identified lessons that boys like best, but Andrus et al., (2018) produced research with broadly comparable results to Reichert and Hawley (2010) in terms of the characteristics of a successful lesson for girls, who are likely to be 'fully engaged by caring teachers who set high standards and provide ample ways to meet them' (Andrus et al., 2018, p.49)

A major factor in my research is the importance of a good, effective relationship between student and teacher. Reichert and Hawley (2009), Raider-Roth (2005) and Martin, A. (2003) all testify to this whilst Gurian & Ballew (2003) articulate one of the needs of a high school student as 'A firm and loving teacher, who genuinely cares about each student and shows it' (p.80). The students' need for an effective relationship with their teacher was seen in practice during SIA duties, where this fell short and intervention was needed. Rosenshine outlines 10 research-based principles, which may help teachers if they understand that instead of being a formula for success, they are the kindling to examine how well we are teaching and how we can improve (Essen, Z., 2019) and require 'intelligent lesson planning and the opportunity to deliver outstanding teaching' (Gibbs, 2020).

Dweck (2006) underlines that the way we see ourselves affects the way we see the world and consequently, the way we live our lives, particularly coping with failure and chasing success. Those who believe their qualities are immovable, who have a fixed mindset, constantly feel the need to prove themselves, whereas those who believe their basic qualities can be cultivated through their own efforts and help from others are said to have growth mindset.

Dweck (2006) articulates that possessing a growth mindset outweighs talent and success is possible from a mastery of learnable components. She argues that continually working towards improvement builds character and any setbacks act as stimuli to greater efforts. Mindsets can be learned from young and the words and actions of teachers can create a mindset. Dweck makes the assertion that great teachers believe that intellect and talent can be nurtured, and teachers have a role to play in the development of a student. Growth mindset teachers help develop a love of learning and curiosity in their students.

Duckworth's Grit (2017) combines persistence with a long-term goal, where one has a commitment to achieving that goal. The four characteristics of a gritty person are interest and passion; the ability to

practice; purpose and hope. A growth mindset is beneficial with dealing with adversity. Children imitate their parents initially, which develops with age to trying to emulate adult figures – again demonstrating the crucial role of adults within school. Consequently, it is possible to develop grit 'from the outside in' where developing your grit relies on teachers, mentors, parents, bosses and friends (Duckworth, 2017, p.269). Developing a gritty character also allows the student to develop resilience, one of the four key aspects of students' learning (Claxton, 2002) and incredibly important for young people who are situated in an uncertain world.

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Appendices

Appendix A

Removed for anonymity

11th November 2019

Dear *Removed for anonymity,*
I am writing to enquire about conducting research in school this academic year. As you know, I am studying for the Master's in Learning and Teaching at Oxford University, supervised by *Removed for anonymity*. In my final research project, "Boys' engagement and attainment: To investigate behaviour for learning with a view to improving boys' engagement and attainment" I will explore how pupils learn, their motivation growth mindset and 'Grit', teenage brain development, self-esteem, the myths around boys' learning and an agenda for a way forward.

The research will take place using the pupils I already teach in Years 8, 10 and 11. I will be aiming to develop a working practice that improves outcomes for all students, but particularly focuses on closing the gender gap. I have spoken with you about this previously and *Removed for anonymity* and *Removed for anonymity*, who I'm sure will offer support. I will collaborate with teachers in the school, particularly those with a teaching and learning focus, both in and outside the English Department.

By participating in the research, the school would be contributing to a project that will deepen our understanding of boys' education and reasons for the gender gap in attainment, helping towards closing that gap and improving pupils' outcomes. It will also contribute towards Educational research more widely.

I hope to conduct this research between January and July 2020. I would use questionnaires / surveys, discussion groups, lesson observations, track pupils, take notes, analyse existing data and use pupils' KAT results, perhaps creating a focus group within the staff team.

Oxford University has strict ethical procedures on conducting ethical research, consistent with current British Educational Research Association guidelines. The University also recognises, however, that my study is a piece of practitioner research, and that schools already operate with the highest ethical standards. Therefore only <u>your</u> formal consent as headteacher is necessary, and not that of individual parents or staff. However, throughout the research, students and other teachers will be able to refuse to participate in any research activities at any time.

All participants, including students, teacher and the school, would be made anonymous in all research reports. The data collected would be kept strictly confidential, available only to my supervisor, *Removed for anonymity* and me, and only used for academic purposes. It will be kept for as long as it has academic value.

If you are happy for me to proceed with this study, please confirm that using the attached reply form. If you have any concerns or need more information about what is involved, please contact me or my supervisor. Further, if you have any questions about this ethics process at any time,

please contact the chair of the department's research ethics committee, though: research.office@education.ox.ac.uk

I look forward to hearing from you.

Yours sincerely,

Removed for anonymity

Boys' engagement and attainment: To investigate behaviour for learning with a view to improving boys' engagement and attainment

Removed for anonymity University of Oxford, Department of Education

Removed for anonymity

- ☐ We do not wish to participate in this project.
- ☐ We would like to find out more about this project.
- ☐ We would like to take part in this project.

_____

Head teacher's signature

Please return this form to me.

Thank you for your help.

Appendix B

Boys' engagement and attainment: To investigate behaviour for learning with a view to improving boys' engagement and attainment.

The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

I am pleased to inform you that, on the basis of the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly, approval has been granted.

One thing to note about the audio-recordings, is that the back-up facility should be disabled while you are taking the recordings, so that these are not automatically uploaded to cloud storage (this is not considered secure for research purposes).

Also, since your research involves participants whose ability to give free and informed consent is in question (this includes those under 18 and vulnerable adults), it is advisable to read the following NSPCC professional reporting requirements for cases of suspected abuse
http://www.nspcc.org.uk/globalassets/documents/information-service/factsheet-child-abuse-reporting-requirements-professionals.pdf

Should there be any subsequent changes to the project which raise ethical issues not covered in the original application you should submit details to research.office@education.ox.ac.uk for consideration.

Good luck with your research study.

With kind regards,

Dr. Sandra Mathers
Department of Education
University of Oxford