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Welcome

Welcome to the third edition of the Birmingham City University (BCU) Education Journal Magazine (EJM) and the final edition for this academic year. This edition contains our largest number of articles from our student population, ranging from undergraduate to doctoral students from both primary to secondary education.

In this edition, we have a number of articles addressing school policy, literary skills, pastoral elements of the school day and other topics that can transfer across key stages. We have some new research, undertaken by our students and some views on current literature and/or policies. We have one guest article from Airina, where she reflects on her experiences of training to teach whilst being a student with EAL. I have included an abbreviations table to help support trainees that too have found the volume of abbreviations challenging.

I hope you find these articles engaging and interesting and you are able to reflect upon any of the findings found from these articles.

This academic year has been an incredibly challenging year and whilst we seem to be turning a corner, it remains unknown where this pandemic is taking us and what impact this will have to our normal daily routines and our plans for our young learner's futures.

If you are inspired by any of the articles you have read this year and wish to contribute to future editions then please get in touch, as we look towards the second volume. The editorial team are happy to support new writers and offer advice in writing skills and laying out articles. We are always pleased to gain your views. If it is of interest to you, then it will be of interest to others too.

For now, I wish you all a fantastic summer and congratulate you for completing the 2020-21 academic year, under incredibly testing conditions.

Best wishes

Grant Huddleston



Meet the editorial team for this edition:

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Our Aim

Our aim is to help support practice across our partnership schools and promote enquiry and research. We welcome contributions from students, teachers and academics who wish to make a positive difference to teaching and learning and believe they could help develop and support other's practice. We aim to support new and experienced writers to submit their work so that we share a variety of perspectives.



Our Goals

- *Showcase the excellent work our BCU students produce.*
- *Allow an opportunity for those interested to publish their work to promote positive development and reflection across our partnership schools.*
- *Promote confidence and competence to write for an education publication*
- *Promote interest towards research and enquiry*

How to Contribute

Anybody wishing to contribute an article for consideration should email their draft to BCUEJM@bcu.ac.uk

You do not need to decide which chapter you wish your article to appear, but you can indicate this if you wish. Please ensure you follow the house style. Final decisions on publication are made by the editorial board. You can submit as many articles as you wish. If the editorial team have received a large number of contributions, your article may be held for later editions.

House style

When submitting an article for consideration, please aim to follow the subsequent *house style*:

- Documents must be submitted in **Word** in font **Calibri**, size **11**, with **1.0 line spacing**.
- Include your full name and role/school – this will appear under the title.
- Any web links given should be accessible by the reader and not sit behind passwords or paywalls.
- Word count is expected to be **500** to **3000** words “all in” (including references lists).
- Acronyms and abbreviations must be written in full the first time they are used in each article; thereafter the abbreviation may be used, e.g. “The special educational needs and disability co-ordinator (SENDCO) is ... “
- UK English should be used, e.g. “...ise” endings instead of “...ize”
- Numbers one to ten written in full; thereafter numerical (e.g. 28 pupils aged nine completed... etc.)
- Double speech marks for direct speech or quotes; otherwise single speech marks
- Please use the Harvard referencing system (where applicable – we can support with this if necessary).

Please note that the editorial team will amend the final copy to suit our house style. You will may receive a copy back if any major changes have been made for you to proof read.

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Eight reasons why contributing to the journal is worthwhile

Grant Huddleston – Course leader for BA/BSc Hons Secondary Education with QTS

We are incredibly thankful for all contributions sent in for our editorial team to review and discuss. However, we'd like to highlight why contributing an article is worthwhile for you and not just worthwhile for us.

Teaching and learning is an evidence based profession and engaging with this journal will help others develop their own practise.

Brings to the forefront the importance of research, evidence and literature in the profession

Supports new ideas/strategies/theories for colleagues to use/try out/reflect upon

Puts the writer's name in the 'shop window' to the partnership and nationally.

Great addition to the writer's CV

Allows an opportunity to show off the high standard of BCU trainees' thoughts/ideas/research

Allows an opportunity to signpost further research/textbooks etc.

Allows for an opportunity to get your 'foot on the ladder' in publishing and engages writer's with the processes involved.

Provides an opportunity for potential networking across the partnership.



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My approach to the pastoral life of the school: a biographical journey towards becoming an effective pastoral lead

Nicky McManus – Bishop Walsh Catholic School, Head of Year

Introduction

I am a secondary school physical education teacher of fifteen years. I have been a Head of Year (HOY) for 14 years, having been appointed in my second year of teaching. I have managed year groups across the whole secondary age range. As an experienced practitioner, I have mastered the pastoral life at school, gaining a deep understanding of the requirements of teachers in what is the pastoral backbone of everyday life in a secondary school.

Becoming a Head of Year

It was Christmas and I was to take over a very difficult year 10 cohort. With no experience of this role, I had to hit the ground running. Through my first 16 months of teaching at the school I felt that I had established myself as a disciplinarian and I was ready to use some of these skills to manage my year group. On reflection of how well my PGCE and NQT year prepared me for this role, I felt underprepared.

I recall my biggest criticism of my PGCE experience was that at no point did anyone say ‘this is how to deal with poor behaviour’. Good behaviour management is key to a successful learning environment and of course there is no one size fits all approach, but my initial guidance was non-existent; you were left to learn from experience which was difficult when trying to manage a group of boisterous Year 10’s who would not stay in their seat let alone complete the task set before them.

During my PGCE I learnt through countless mistakes of different ways to deal with challenging behaviour and I quickly established myself with what can only be described as an authoritarian approach. I realised that by being authoritative I would get the response that I needed: students would sit in the correct seats, they would listen when I spoke and they would sit quietly at all times. I felt that this was a success; any onlooker would see that my group were well behaved and did exactly as I told them and if they didn’t, I would shout at them until they saw my point of view and responded in the way that I wanted them to do. At no point did I reflect on the impact that this would have on the students themselves or whether there was a better way. However, this approach helped me to establish myself quickly when I started my NQT year and I became well known for my ‘good’ behaviour management. This also

helped with my promotion to Head of Year at the ripe age of 23. Whilst I was firm and fair, I was very authoritative and I built relationships with my year groups based on 'I say, you do.' I was the traditional strict teacher who would yell if rules were not adhered to. I had one parental complaint, calling me 'draconian'. I was offended at the time, but with hindsight she was probably right.

As time passed, I began to realise that students responded more effectively if I spoke to them, instead of yelling at them and if I listened to them, instead of telling them what I think, you received a better response. Once I had learnt to listen to students, I began to understand their behaviour and I was then able to help them in a more effective manner by helping them to make better choices when faced in similar situations. This helped me to develop relationships with parents and teachers alike. By listening to the student and actually talking through what happened, I was finally offering the pastoral care I had set my pastoral career around.

I now approach all behavioural issues from students in my lessons and in my year group in a much more calm and respectful manner. I allow the student to have their say and I give them the opportunity to reflect on their actions before I inform them of what was wrong with what they did. This has had a much more positive outcome as they have a deeper understanding of the consequences of their behaviour and are often more apologetic about their actions, resulting in positive change.

Mutual Respect

I follow the Golden rule of treating others as one wants to be treated (rule three found in: The Highly Effective Teacher, 2021). If you show a student respect, they will in turn show you respect. This will allow you to build a better relationship with them. And the more they respect you the more that you can influence their choices, especially when it comes to behaviour and conduct.

This influence will help shape a student's life and behaviour and it is vital in their growth. This is why I believe the role of the tutor is so important. If a form tutor does their job effectively in the morning, then they are facilitating the teacher to teach. If a student feels safe and respected by the first adult or teacher they interact with in the morning, then they will be in a more positive frame of mind for the remainder of the day. It is important therefore that the form tutor builds positive relationships with their tutees. They are the biggest source of stability in an ever-changing day that is important for all students, but especially many on the SEND register. The form tutor is also the person most likely to spot safeguarding concerns and is at the forefront of maintaining the wellbeing and safety of the students in their care.

Thoughts for Trainee Teachers

Therefore, I believe that educating trainee teacher on the importance of the pastoral life of the school and teaching them how to be an effective tutor is equally as important as the other elements of their training. If pastoral care is not given correctly it can have detrimental effects. For example, a student should feel comfortable disclosing any child protection issue to their tutor and should feel comfortable speaking to them about a variety of concerns. But would a trainee teacher feel comfortable being in this position? Would they know how to respond? Do they know how to effectively manage a class, especially in a way to build a strong enough rapport with the students in their care? There is no doubt that a lot of this comes from experience but why not give trainee teachers a strong foundation to start from? I believe this should therefore be part of the teacher training process to ensure that they know how to deal with different situations and scenarios. Even with experience this can be daunting, so early expose to the trainee teacher would be beneficial.

The teacher's standards do reflect this (Department for Education, 2011). Standard 8 states that teachers are required to show how they support the wider responsibility of the school. But how generic is this? Having been through the experience myself and from working with trainees, I know that this tends to be the standard that is seen more of an inconvenience than an important part of their journey to be an amazing teacher. Further to this, reflecting upon my 15 years teaching experience, I struggle to recall when the last time INSET was delivered to staff about behaviour management or the pastoral role of a teacher. Most recently, mental health issues are a common theme of any pastoral leader and more and more support is required for teachers to support their students. Laws and Fiedler (2012) acknowledge that staff require ongoing professional development to help teachers deal with the increasing emotional needs of students, so this is an area that I feel requires greater attention.

In summary, what have I learnt?

In a role that is ever changing it is important to be flexible in your methods. Whilst I thought I had mastered behaviour management early on in my career I quickly learned that I was, and probably still am, far from the finished product. The challenges facing students evolves at an increasingly fast speed and therefore we as teachers must evolve at the same speed. What worked as effective class management 10 years ago may not necessarily work now, just as many techniques we are developing now may need to be adapted again over the next 10 years. This is why ongoing professional development for behaviour management is imperative to maintain high levels of discipline in schools. García and Weiss (2019) conducted a study supporting this. They stated that ITT students and NQTs receive regular support on their behaviour management but teachers receive much less support throughout their career.

What advice would I give to trainees?

As a priority, trainees need to find out what the school's behaviour and rewards policy looks like. In order to be respected by their new students, trainees need to adhere to the policy they are used to within school. This ensures consistency which students thrive on.

Trainees must establish them self as early as they can with students. In Tom Bennett's (2021) behaviour toolkit he explains that trainees need to set out the rules the first time they encounter their classes in a way that offers no ambiguity or confusion about what is expected from them. He states the importance of establishing the correct routines for students to follow in order to promote good habits and then ensure consequences are issued when these routines and rules are broken. Consequences generally take the form of a sanction but he also suggests the following tips for behaviour management:

- 1) Ask for support
- 2) Mentally prepare for common behaviour problems so that you are ready and equipped to deal with them when they arise
- 3) Call parents to update them on persistent issues. This is to create a positive relationship with them instead of ringing them when things are out of hand
- 4) Constantly remind student of expectations
- 5) Escalate persistent poor behaviour
- 6) Remain consistent in your approach at all times

Harris (ND) of the Crisis Prevention Institute has also put together some tips to help teachers prevent a situation escalating and should be consider by trainee teachers:

- 1) *Be mindful of your own reaction.* You need to prevent an escalation of the situation. I know from my own experience that I have made a scenario worse based on my negative and aggressive reaction to a student which simply escalated into a situation of who could shout the loudest until someone else intervened. Review your reaction, is it warranted? Does it match the behaviour incident you are dealing with or have you blown it out of proportion?
- 2) *Maintain rational detachment.* It is important that you don't take it personally. Whilst some behaviour may be as a result of an interaction you have had with a student there will be times when their outburst actually has nothing to do with you or what happened in your lesson. Keep it in perspective.

- 3) *Be attentive.* It is easy to forget that when a young child who is testing your patience and being point blank rude that they are full of emotion and this sometimes just needs to be validated. Talk to them, listen to them. Let them know you hear them.
- 4) *Recognise your limits.* You can't deal with every situation. Refer it up or request back up when it is needed. As a trainee teacher do not be afraid to seek the advice of the teacher in the room. If you can see that you are starting to lose the group, have a quiet word with the teacher and ask for advice on how to bring them back.
- 5) *Debrief.* After dealing with a behaviour incident talk to someone about it, specifically your mentor or observing teacher. This will not only relieve stress but also it will help you to see if there was a different way to handle it next time.

Learning effective behaviour management is definitely something that you learn on the job. You WILL make mistakes but you will learn quickly what works and what doesn't. Being aware of your successes and failures in this part of your lesson is equally as important as focussing on your delivery techniques and it is important that this is reflected on after every lesson.

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Variation between Policy and Practice? A Critical Examination of Variation Theory in Primary Mathematics Policy and Practice.

Declan Forde – Year 3 BA Primary Education, Birmingham City University

What is Variation Theory?

This article will first define variation theory (VT), before critically examining current and emerging policy in primary mathematics, through the lens of VT, whilst making reference to wider reading and research.

VT is a theory of learning that addresses the development of key mathematical concepts (Aksew, 2015), and recognises variation as a key component of high-quality mathematics teaching (Marton, 2015). The National Centre for Excellence in the Teaching of Mathematics (NCETM) (2017) view variation as a key component of a mastery approach to mathematics, stating that variation is twofold: how a concept is represented (conceptual variation) and careful sequencing of activities/questions to show the variant and invariant features of a process or object of learning (procedural variation). As such, teaching with variation allows the essential features to be highlighted through varying the non-essential features, which enables learners to identify the features critical to a concept (Lai, 2012). Therefore, it can be assumed that the careful and purposeful choice of questions and examples is paramount when considering teaching and learning in mathematics (Torish et al., 2019; Olteanu, 2018).

Variation Theory in National Policy

Within the aims of the mathematics programme of study for key stages one and two, the Department for Education (DfE; 2013) states that all pupils should be taught the fundamentals of mathematics, achieving fluency, reasoning mathematically and solving problems. Whilst VT is not explicitly referred to within the programme of study, the mention of pupils developing fluency “through varied and frequent practice” (DfE, 2013:3) may allude to the principles of procedural variation. Furthermore, the mention of pupils acquiring deep conceptual understanding and fluency (DfE, 2013) before moving to further objects of learning further suggests how VT principles may underpin and support mathematics teaching. As aforementioned, there is little explicit mention of VT in the programme of study, assumedly due to it being a document that sets out the taught content rather than ways of teaching, but it is important to consider how the DfE has previously promoted approaches (mastery in mathematics) and made approaches statutory (systematic synthetic phonics). As such, it is not far-fetched that if research demonstrated that VT was an effective means to improve teaching in mathematics, that national policy should reflect this.

More recently, however, the DfE, along with the NCETM, released further non-statutory guidance with the aim of helping schools improve their mathematics teaching. From the guidance, it is clear that the principles of variation theory have been considered. For example, the guidance suggests that teaching of place value should involve

exposure to variation in the representation of the composition of numbers. This may involve 342 being represented as “ $40 + 300 + 2$ ” (DfE, 2020:88). This is also evident where they suggest that children should be taught to partition numbers in “standard” and “non-standard” ways (DfE, 2020:89). The presentation of standard and non-standard examples in mathematics is vital in ensuring children make connections and develop their conceptual understanding of specific mathematical structures (Pang et al., 2016).

Variation Theory in School Policy

Having reviewed how a national policy, such as the mathematics programme of study for key stages one and two, reflects the principles of VT, it is important to consider how national policy has been implemented in schools. Therefore, a sample of four schools’ mathematics policies were analysed as to how they refer to principles of VT. For the purpose of this article, all schools will remain anonymous.

Firstly, as regards the implementation of conceptual variation, it seems that schools are becoming aware of the importance of purposefully chosen examples to enforce conceptual understanding. School B mention children experiencing “routine and non-routine” examples (School B, 2020:3), but, whilst School C makes explicit reference to, and defines, conceptual variation in their policy, they do not detail whether their implementation includes the use of carefully chosen examples. Boaler and Dweck (2016) assert that standard examples do not truly reflect the full essence of - and in fact narrow a learner’s understanding of - a concept, also expressing that an over-reliance on them will result in misconceptions. This is supported by Kullberg (2017), but they argue that students should see difference, before sameness, thus recommend the presentation of non-examples early in the knowledge acquisition phase. They argue that the importance of this derives from the fact that discernment of different features by the learner is critical when developing conceptual understanding. The importance of carefully chosen examples that gradually reveal the mathematical structure of a concept or object of learning is reflected by Mason (2017), who expresses that variation draws learners’ attention to specific aspects in mathematics, allowing them to make valuable and meaningful connections. Therefore, the careful and purposeful choice of examples is paramount when considering effective teaching and learning in mathematics (Torish et al., 2019; Olteanu, 2018) and it is clear that schools, in this sample, are beginning to embed this into their practice, but it is urged that all schools should be utilising this.

Another key component of conceptual variation is the usage of multiple representations to reinforce a concept. School A write that teachers utilise a “variety of representations” (School A, 2019:3). Further to this, School D make specific reference to the representations that teachers should use for specific concepts, and how they are progressed upon throughout the school, in their calculation policy. For example, children in year one are exposed to ten frames to represent number bonds to ten, but also the usage of part-whole models. They also refer to extending the use of part-whole models throughout school (School D, 2020). Representations, one of the NCETM’s five big ideas for mastery (NCETM, 2017), are a crucial aspect of effective mathematics teaching and learning, as they allow

for abstract mathematical concepts to be represented in a concrete way, exposing mathematical structures more clearly (Kang and Liu, 2018). However, it is important to note that all representations have advantages in accentuating mathematical relationships in different contexts, or in reference to different objects of learning (Kirwan and Tobias, 2014). Rycroft-Smith (2019) cites the NCETM, who express that the use of multiple representations is rooted in VT and allows learners to see what a concept is and what it is not, which allows them to build a holistic picture of a concept whilst deepening their understanding of it simultaneously. Quinnell (2018) notes that when teachers make use of and develop children's understanding of a variety of representations, this has a positive impact upon problem solving abilities due to the mathematical versatility that being exposed to multiple representations provides. This lends to and supports the notion that representation usage should be purposeful and consistent across a school, to allow learners to be mathematically flexible, which is further reflected in the aims of the mathematics programme of study, where it states that pupils should "move fluently between representations of mathematical ideas" (DfE, 2013:3). However, Kullberg et al. (2014) note that simply the presentation of multiple representations alone is insufficient for learners to make connections; it only creates the opportunity to make connections. So, they highlight the importance of the role of the teacher in drawing attention to key similarities and differences between representations of objects of learning and, whilst this may occur through different manners such as speech and gestures (Alibali et al., 2013), suggest it is highly beneficial for learning. Considering the usage of representation in mathematics, Jorgenson et al (2020) highlight the importance of formative assessment, specifically in identifying a learner's preferred mode of representation. By identifying a learner's preferred representation, this can be used (if appropriate) to reinforce a new concept, due to the learner's current flexibility and understanding of that representation, which could reduce anxiety surrounding a new concept.

As regards how schools are embedding principles of procedural variation, School A, School B and School C all make reference to utilising the White Rose Maths scheme to ensure whole-school progression and deep conceptual and procedural understanding. For context, the scheme divides each year into blocks, and then each block into small steps to ensure that learning is well-sequenced and built upon. White Rose Maths (2020a), when exemplifying teaching of comparing numbers within 50, suggest children using inequality symbols to compare 21 to 26, then 26 to 21. Furthermore, when exemplifying teaching of multiplying by 100, White Rose Maths (2020b) suggest using a place value grid and counters to solve the calculations 7×10 , 7×100 , 63×10 and 63×100 . When considering the implementation of procedural variation, the NCETM (2016) recommend the concept of intelligent practice (IP), which, as defined by Barton (2020), is a sequence of questions that allow pupils to practice a mathematical method alongside thinking mathematically, which may include conjecturing and generalising (Marton, Burton and Stacey, 2010). Yai (2012) suggests that teachers who embed principles of procedural variation within their teaching ensure learners carefully experience the general features of a concept, which allows for the formation of well-structured knowledge and for learners to attempt generalisation. This is mirrored by Simon and Tzur (2004, cited in Lai and Murray, 2012) who argue that a well-designed sequence of tasks is beneficial in allowing learners to recognise key mathematical relationships and Batstone (2019), who invites their perspective that tasks that allow learners to explore mathematical structure reflect procedural variation. As a result, after reviewing a variety of examples of

tasks from the White Rose Maths scheme of learning, it seems that the principles of procedural variation have been considered, as the examples stated above, would allow learners to see both the variant and non-variant features of multiplying by 100 and comparing numbers within 50. Therefore, with the school policies that have been reviewed stating their usage of this scheme, it can be assumed that some principles of procedural variation are present within their practice. In addition, with many academics praising procedural variation for the way it encourages deep mathematical thinking, and how research has positively linked mathematical thinking to the enhancement of children's mathematical reasoning (Mata-Pereira & Ponte, 2017); it seems that with schools embedding procedural variation, due to the way it encourages mathematical thinking, this would have positive impacts upon their children's reasoning abilities (Mata-Pereira & Ponte, 2017).

As teaching for mastery, which VT is commonly used to support the implementation of, involves all pupils moving through content simultaneously, ensuring teachers are frequently assessing student understanding is key. These assessment strategies may gauge student understanding, highlight misconceptions or affirm teacher perceptions of perceived learning (Black and William, 1998). By assessing frequently, teachers can adjust teaching to ensure that deep conceptual understanding and procedural fluency is achieved. To illustrate, if misconceptions are identified, this may indicate that further non-standard and non-examples, rooted in principles of conceptual variation, should be explored. Alternatively, identified through formative assessment, students who are progressing well and have a secure understanding of an object of learning, are ready to progress to the next object of learning.

Recommendations

To conclude, having reviewed national policy surrounding VT, it seems that, at the time of release, the key stage one and two mathematics programme of study did not explicitly reference principles of VT to great extent, but in the most recent, non-statutory guidance, released by the DfE in conjunction with the NCETM, principles of VT seem to underpin the recommendations made to schools. It is also evident, having reviewed various schools' maths policies, that schools are beginning to embed principles of VT in order to improve their mathematics teaching, thus also their pupils' mathematical understanding. However, whilst recent guidance proves a step in the right direction and whilst schools are beginning to embed principles of VT despite the perceived lack of national policy guidance, further national policy clarifying how schools may implement these principles would bode beneficial.

It is imperative that schools' practice in the teaching of mathematics, firmly embed VT; the following recommendations are made. Schools should utilise a variety of standard, non-standard and non-examples when introducing new objects of learning to pupils to enforce conceptual understanding; the overarching opinion remains that learners should see the features that do constitute a concept and the features that do not constitute a concept. Also, teachers should utilise a variety of carefully chosen representations when developing conceptual understanding. By employing different representations, learners' understanding of a concept is deepened. However, it is important that representations are used and built upon throughout key stages, suggesting that the role of the mathematics coordinator in ensuring consistency in representation usage across the school, is vital. Finally, the role

that procedural variation plays in developing learners' understanding is crucial; principles of procedural variation should be carefully considered when teachers design mathematical tasks, as mathematical tasks are the vehicles that allow learners to deepen their procedural understanding. By carefully crafting a sequence of questions that allows learners to see the variant and invariant features of a concept, whilst also providing opportunity for them to think mathematically and develop their reasoning skills, procedural fluency and understanding in a topic can be reinforced.

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To what extent does children’s literature, written to address sensitive topics, support the emotional well-being of children during personal, social, health and economic (PSHE) education in UK primary schools?

Katie Goodacre – Year 3 BA (Hons) Education Studies and author of children’s book, *Miley’s Mind*.

Part One – A Review of Literature

Introduction

With children’s mental health receding in these unprecedented times (Phelps and Sperry, 2020), improving children’s emotional well-being should now be at the forefront of agenda (Lee, 2020).

This literature review provides insight into the extent to which children’s literature, written to address sensitive topics, supports the emotional well-being of children during personal, social, health and economic (PSHE) education in UK primary schools. Throughout, the term ‘sensitive topics’ will refer to any topic or subject which needs to be dealt with carefully because it is likely to cause sadness or anger, including: bereavement, mental health, bullying, abuse, disability, different families and poverty.

Perspectives of PSHE education

PSHE education aims to have a positive impact on a number of outcomes for young people (Lepkowska, 2015), including, but not limited to, emotional well-being, physical health and online safety (Squires, 2013). Despite a non-statutory status for many years, part of the PSHE curriculum – Health and Relationships Education – is now compulsory; having taken effect from September 2020 (Long, 2020). This is in response to the reform of a ‘broad and balanced’ curriculum under the new 2019 Ofsted framework (OFSTED, 2019) with some educators arguing this has increased teacher workload, and subsequently teacher stress, which has been noted as counterproductive (Manyukhina and Wyse, 2019).

Others celebrate this now statutory requirement, believing PSHE education to have finally gained higher status in schools (PSHE Association, 2020). Perhaps this higher status reflects the need for additional emotional support; especially in these neoteric times. The effects of the global pandemic throughout 2020/21, triggered by virus Covid-19, has caused the proportion of children experiencing ill mental health to rise dramatically (Phelps and Sperry,

2020), although children with pre-existing mental health conditions, or those with less support, are thought to be more negatively impacted (Lee, 2020).

PSHE lessons provide a planned programme of learning experiences and opportunities that enable children to develop as well-rounded, conscientious individuals (Rowlinson, 2014). Rowlinson suggests this personal development makes PSHE the most effective opportunity to discuss sensitive topics with children as the group format can provide solidarity and commonality, as is also established by Brown et al. (2011). Conversely, others argue against discussing highly sensitive topics in PSHE due to the lack of confidentiality (Formby et al., 2011) and the potential social phobia that many children may display (Formby, 2011). Despite teachers' best efforts to provide a safe environment for children to talk and share emotions, each child in the class could potentially breach confidentiality despite receiving instructions on the contrary (Kidger et al., 2009), especially children who are older (Formby et al., 2011). Furthermore, asking children to discuss sensitive topics as part of a large group could be overwhelming or triggering for those who have experienced traumatic events (Crow, 2008); increasingly so if they have social phobia (a fear of social situations) due to unwanted attention. It is argued that a skilful teacher would not set such expectations (Formby, 2011).

With all this considered, Rowlinson's (2014) paper reviewed both qualitative and quantitative data which has enabled her to interpret two different types of research, using the collective strength of both to reach a conclusion. This mixed methods approach has provided her conclusion with depth and reliability (McKim, 2014) as she was able to understand contradictions between findings (Wisdon and Creswell, 2013). Most of her data is from secondary schools in England and therefore not wholly typical of the primary sector.

Similarly, yet with a focus on primary education, Willis, Clague and Coldwell (2013) explored the effectiveness of PSHE, outlining longstanding policy and the differing views of the purpose of PSHE education. They conclude that it is a crucial time within the school week for addressing topics that are known for being of a sensitive nature. Other lessons can be used to address the same topics and should not be discounted (Brown et al. 2011) as this could lead to children being scared to talk about their emotions during other times in the school day (Formby et al. 2011).

Willis, Clague and Coldwell's (2013) study was large (n = 563) and became representative of a wide demographic within England due to data collection from urban and rural schools, both in the South and in the North. A varied demographic is useful for collecting reliable results as it is assumed that a broad range of individual experiences, from diverse socio-economic areas, religion, race and gender, have been articulated and generalised. A focus on singular locations can be equally effective if the research is specific to a particular place (Creswell, 2020) yet diverse data collection appears to strengthen this study.

However, their research was conducted on behalf of the Department for Education which suggests results could be skewed towards positive representations. Government departments tend to publish research that only has positive

findings as negative outcomes are systematically rejected, leading to what some people describe as ‘publication bias’ (Sasse, 2018). This could mean their research is too subjective, yet it has been cross-referenced in several health, education and psychology journals thus improving its validity. Furthermore, Niaz (2017) admits surprise at how critical government ‘sponsored’ research can be of government policy.

Insufficient information is given in Willis, Clague and Coldwell’s (2013) research, however, about the role children’s literature plays in supporting the delivery of sensitive information within PSHE education; their research aim had a much greater focus on policy and agenda.

Children’s literature written to address sensitive topics

Children’s literature can provide a vehicle for exploring topics that young people often feel uncomfortable about (Waugh, Neaum and Waugh, 2016) and for developing language which enables children to express their emotions (Hunter and Phillips, 2002) as, often, they struggle to articulate anxiety, isolation and frustration (Sunderland, 2017). Stories which address particular issues are known to enhance children’s social and emotional learning (Sunderland, 2017) which therefore supports their mental health and emotional well-being (Mancini, 2019).

Children’s books on sensitive topics help children cope with difficult situations as they encourage them to empathise with others through the personal connections they make with characters that are different from themselves (Sunderland, 2017). This is also supported by Bowen and Schutt’s (2007) research which additionally conveys how children’s literature, written realistically about sensitive topics, can provide comfort and support to children who are experiencing challenging experiences first-hand. It is suggested that, when children read a book that features a character with whom they identify, they become empowered to take control and find a solution to their own problems (Bowen and Schutt, 2007).

Bowen and Schutt’s research was conducted in Kentucky, United States of America (USA), and therefore findings may lack transferability to an English context. However, Mancini (2019) suggests the positive impact of children’s literature is universal and therefore the research demographic should not be seen as a restriction. This view is supported by Gray, Coates and Bird (2008) who claim the USA and UK are usually presumed to be culturally similar, meaning sociological research between the two countries is interchangeable to some extent.

Bowen and Schutt (2007) do not state the age range of children that their research focussed on; this is noteworthy as children of various ages respond differently to story books (Lowenfield, 1991; Sunderland 2017) meaning that their data could be considered ambiguous. There has been substantial debate opposing this, however. O’Sullivan (2005) argues that children of all ages reap the same emotional benefits from literature as long as the wording, style and images are age appropriate. This perspective is not one which resonates on a personal level, yet further data indicates teenagers with special educational needs (SEN) benefit in the same way as younger children from literature

which addresses sensitive topics (see Heath, Smith and Young, 2017). However, they do not state which additional needs are being referred to; resultantly, their data is enigmatic as SEN is a broad spectrum whereby every additional need requires different levels of intervention (Williams-Brown, 2020).

There is little mention of ethics in Bowen and Schutt's (2007) research however all research must adhere to strict, ethical regulations (BERA, 2018) demonstrating how ethical approval must have been granted, despite the lack of focus. Some may argue this study should therefore be avoided due to ethical discussions expected in sensitive research, yet I recognise it to have strengths which support my research aim.

Addressing language in particular, Wetton (1995) conducted a study to help children develop their vocabulary so that they could speak confidently when sharing how they, and others, felt. Her study was aimed at those in Lower Key Stage Two and therefore had a concentrated age range of children, allowing her study to have a greater focus. There is also mention of ethics throughout, such as how data would be stored and the processes through which the researcher underwent, which demonstrates safety and consideration for participants (BERA, 2018).

Wetton (1995) found that children's literature provides a unique setting for enabling language associated with emotions to be expressed; explaining how children experience the characters' relationships and feelings, allowing them to applaud and condemn character decisions. However, Wetton conducted this research with funding from the Health Education Authority (HEA). As the HEA was run by the UK government's Department of Health, it should be assumed that publication bias may be present due to governmental preference of publishing research augmented by positive results (Sasse, 2018).

Wetton's (1995) research is arguably outdated yet similarly sustained in the more recent work of Arruda-Colli, Weaver and Wiener (2017). They conducted a large study to examine the extent children's books aided parents, carers and teachers in addressing death with grieving children, or for children living with terminal illness. A children's literature search was conducted through four electronic databases, with a publication date between 1995 and 2015 also included. Two independent reviewers examined the contents (n = 210). They concluded story books can be helpful tools to effectively introduce children to uncomfortable, sad or sensitive topics.

To examine the contents, the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) protocol was used. PRISMA is an evaluative tool for reports, articles, interventions and randomised trials (Beller et al., 2013; Saunders, Lewis and Thornhill, 2019). There are strengths to PRISMA: it is useful for the critical appraisal of published systematic reviews (Beller et al., 2013) meaning that the limitations of existing research are usually recognised and considered. However, PRISMA is not a quality assessment instrument (Welch, 2016) so the value of a systematic review cannot be gauged. This could therefore limit Arruda-Colli, Weaver and Wiener's (2017) study.

This is not to say that their study is without depth. Again, their trial was large which suggests a high level of precision and confidence in their conclusion (Flick, 2018) as more information is gained and uncertainty is reduced. A smaller sample size would have been more time and cost efficient (Seale, 2004) but a larger sample size is perhaps more reliable as the data is easier to generalise (Silverman, 2017). Despite this, Arruda-Colli, Weaver and Wiener's (2017) research fails to explore the extent to which children's literature supports the emotional well-being of children who are not experiencing death, grief or bereavement. For instance, there is no acknowledgement towards other sensitive topics which can cause distress, such as poverty.

Similarly, a Dutch study by Diekstra (2008) highlights how intervention through the reading of specific children's literature can support grieving children. Diekstra established that offering families books, particularly related to bereavement, to read with their children at home helped avoid significant deterioration of mental health connected with the loss of a family member. However, the paper does not reflect home-life or education in the United Kingdom and therefore its results could be considered confined. Yet, as already discussed, Mancini (2019) upholds the universal impact of children's literature. It is important to note that a recent UNICEF survey (see Thompson, 2020) affirms Dutch children to have the lowest rates of anxiety and depression, out of the 41 most affluent countries (including Britain and Ireland), which suggests comparisons, regarding children and emotional well-being, between Holland and the UK, may not be as comparable as hoped. Moreover, Diekstra's (2008) research could have had positive results amplified by aspects not usually available during lessons in school, such as the direct involvement of families.

Conclusion

In summary, this literature review builds upon the work of many education practitioners. It suggests that PSHE can be useful for discussing sensitive topics, yet teachers should not discount other lesson time. Furthermore, with part of the PSHE curriculum now compulsory, teachers should be implementing strategies that can help children discuss, learn and respond to difficult themes.

Utilising specific children's literature can be a strategy in which to achieve this. This literature reviews implies that children's literature, written to address sensitive topics, can have many functions, such as: to develop empathy and vocabulary; to provide support and recognition; and to enhance emotional and social learning. There is debate surrounding the age range of children who benefit the most from such interventions, yet there is considerable evidence to suggest children's literature can support emotional well-being.

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Katie Goodacre – Year 3 BA (Hons) Education Studies and author of children’s book, *Miley’s Mind*.

Part Two – Key Findings and Discussion

Introduction

I aim to provide authentic research that determines the extent to which children’s literature, written to address sensitive topics, supports the emotional well-being of children within PSHE education in UK primary schools, drawing upon participant responses to a survey and auto-ethnographic positioning.

Consequently, additional sub-questions have been considered:

- 1) Is children’s literature, written to address sensitive topics, sufficient in its support?
- 2) How often is children’s literature utilised to address sensitive topics?
- 3) What age range of children find literature and story books most beneficial?
- 4) Is PSHE education the most efficient time to discuss sensitive issues through children’s literature?

All research must adhere to strict, ethical regulations (BERA, 2018). Resultantly, before conducting research, I sought ethical approval from my project cluster lead.

Findings – Survey Results

Is children’s literature, written to address sensitive topics, sufficient in its support?

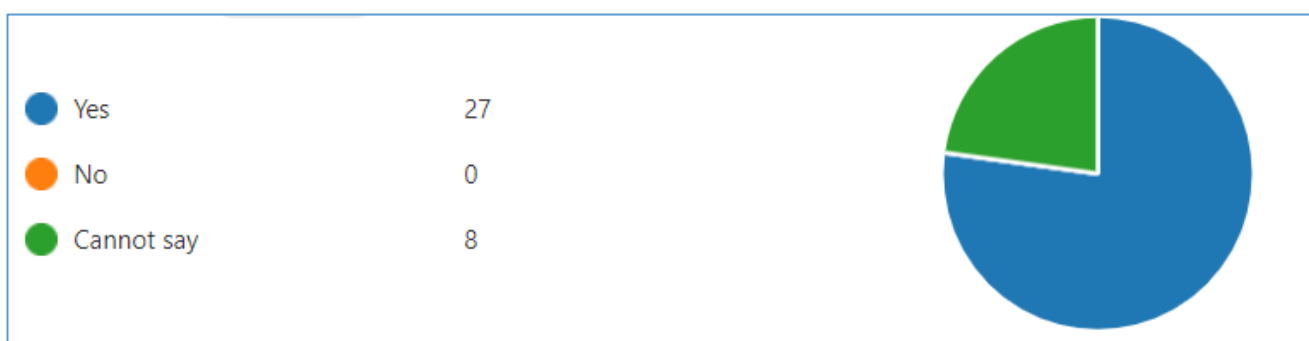


Figure 1 – Do you find children’s literature helpful for addressing sensitive issues?

Figure 1 shows that 27 people, out of 35, confirmed they found children’s literature helpful for addressing sensitive topics - equivalent to 77%.

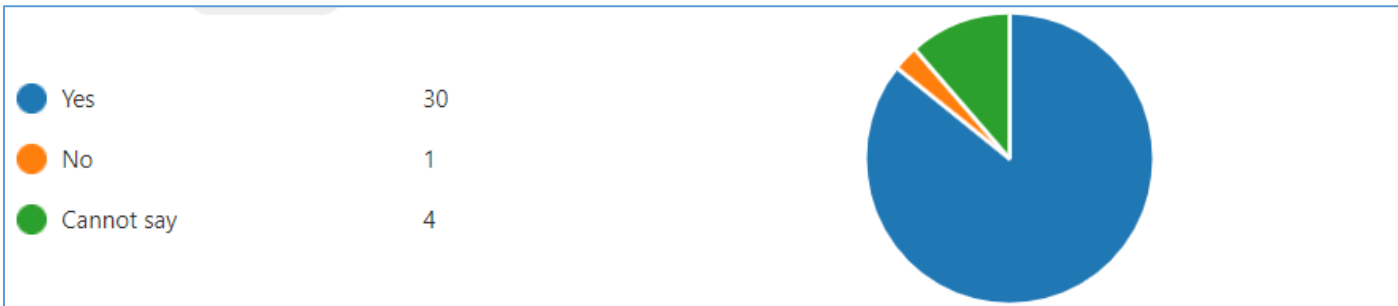


Figure 2 – In your opinion, do you think children find stories (which address sensitive issues) helpful?

Only one person did not believe that children found stories helpful when discussing sensitive topics (Figure 2). 30 people (86%) said they did think children found them helpful. Four people could not say either way. Perhaps this is due never having used them.

How often is children’s literature utilised to address sensitive topics?

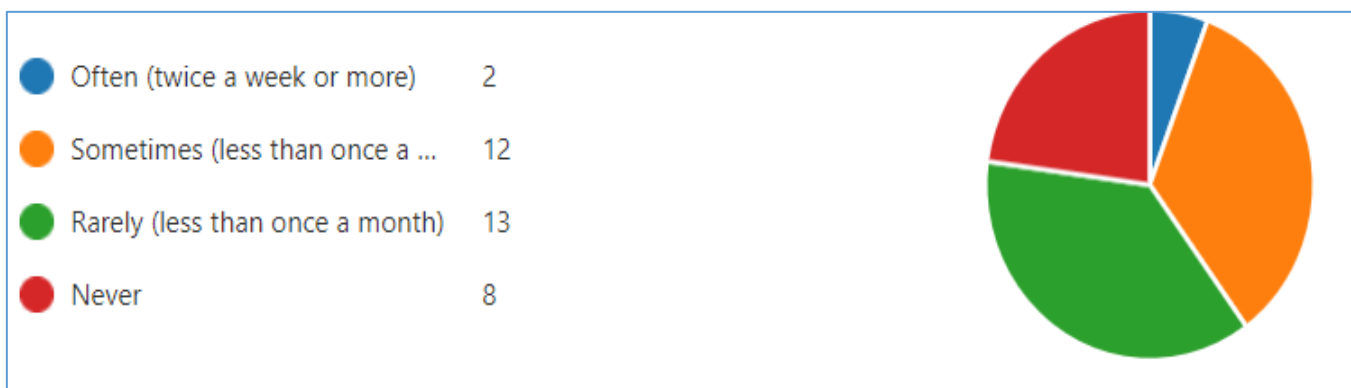


Figure 3 – How often do you use children’s literature to address sensitive issues?

Despite 77% finding children’s literature helpful (Figure 3), it is surprising to note how only two people utilise it often, with the highest proportion of people selecting ‘rarely’ (37%). Imaginably, the eight people that claimed to never use children’s literature are the same eight people who could not say either way whether they found it useful.

What age range of children find literature and story books most beneficial to their emotional well-being?

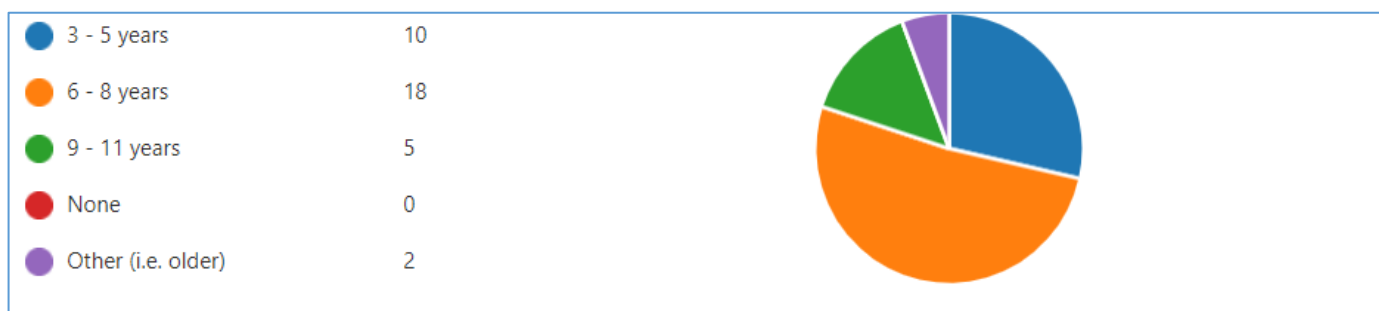


Figure 4 – Which age category benefits most from stories which address sensitive issues?

Figure 4 demonstrates that over half of participants believed the age category to most benefit from literature is the six to eight-year olds. Whilst three to five-year olds was the second most popular answer, only two people believed that older children benefit the most.

Is PSHE education the most efficient time to discuss sensitive issues through children’s literature?

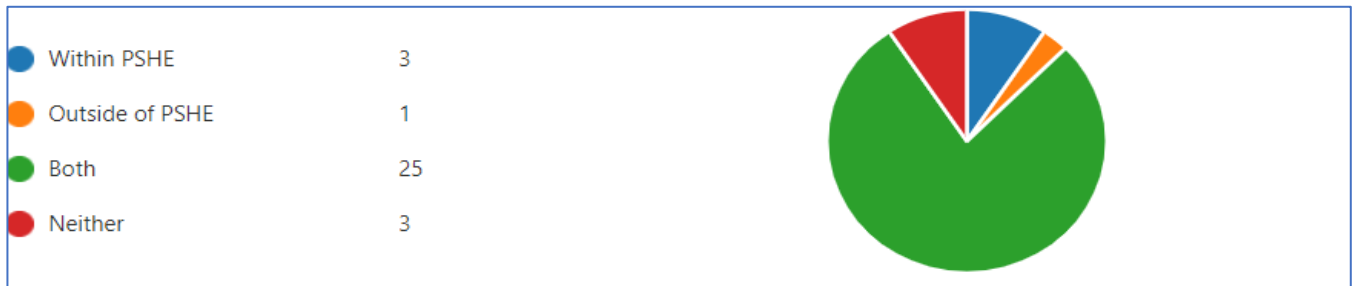


Figure 5 – Do you prefer to use stories/literature within or outside of PSHE lessons?

The majority of participants prefer to use stories to support emotional well-being in both PSHE and other lesson time (Figure 5). Only three said they preferred to utilise stories in PSHE alone and, interestingly, one person admitted to preferring to discuss sensitive topics, using literature, outside of PSHE.

Discussion

Is children’s literature, written to address sensitive topics, sufficient in its support?

Children’s literature, written to address sensitive issues, is highly valued in this study. This confirms research by Bowen and Schutt (2007); Waugh, Neaum and Waugh (2016); Sunderland (2017); and Mancini (2019). The survey results (n=35), whereby 77% of participants confirmed they found it helpful in their practice, corresponds with my personal view. Having spent time working with children, observing how they respond to literature that they can relate to, I have noted how language in books enables vocabulary to develop. The importance of language within literature is supported by Wetton (1995) who found that using language associated with emotions allows children to articulate their feelings; meaning discussions with children are made easier.

This study also revealed that 30 participants thought children found stories useful; equivalent to 86%. Qualitative data explores this, with several participants discussing how children’s literature will often provide a solution to certain problems, such as bullying, and therefore children will apply the same solution to their experience. This perspective is also one which is sustained personally. When writing my book, Miley’s Mind, a clear resolution was of great importance. Miley (the main character) reaches out for support and talks to her friend. Interestingly, much of the feedback I have received has been about the simplicity of the conclusion and its effectiveness. Children, after reading a book that discusses sensitive topics, become empowered to take control and find a solution to their own problems (Bowen and Schutt, 2007), thus endorsing my view.

Furthermore, other qualitative data suggests children's stories improve emotional awareness and, importantly, acceptance. When working in schools, I had a conversation with a child about her father's depression. The child, after reading a book called 'Not Today, Celeste' which deals with mental health, became aware of how depression can affect the mind and stated: 'that's what my Dad had then'. She was able to relate the symptoms she read about on the page with the symptoms she saw her Dad portray at home; hence became aware of her situation, and accepted that her father's situation was not unique.

The similarities between findings could be considered subjective. My personal stance is likely to be biased due to being the author of a children's book; impacting on my subjectivity (Niaz, 2017). Although little research is thought to be entirely objective, auto-ethnography has been considered unreliable (Denzin, 2019). That said, my personal views are drawn from first-hand experiences and situations that I witnessed offering, therefore, some form of credibility. Despite the documented strengths of children's literature, there is controversy worth noting. One participant admitted to not thinking children find stories useful. Due to ethical considerations, it was decided to exclude children from the survey due to complications this would have caused (Sikes and Piper, 2010). For a more accurate response, perhaps children should have been included, although, as a new researcher, this was something I wanted to avoid due to lack of experience, and my desire for minimal harm (BERA, 2018). A further four confirmed they could not say either way whether they thought children found it useful to their emotional well-being or not. Qualitative responses offer some perspective on why five people disagreed with the consensus:

'(...) I don't think they alone can. (...) how they are used after reading to aid discussions is more important'.

This suggests that some people think children's literature is only helpful if used parallel to secure planning of how to advance conversation and promote questioning. This does not correspond to any research in the literature review yet that is not to say there is no research on this topic. I did not directly explore the importance of planning for discussion and, therefore, it is not lack of research, but my lack of focus in that particular area. More reading would need to be conducted, yet, I agree that stories which address sensitive issues should be thought about and questions, that develop sustained shared thinking, should be planned in advance in order to encourage and support children, as was made clear when I struggled for what to say during my time as a TA.

How often is children's literature utilised to address sensitive topics?

Surprisingly, despite 77% of participants saying they found children's literature helpful, plus 86% agreeing that they believed children found it helpful, only two people (6%) admitted to using literature often to address sensitive topics. This contradicts what I assumed the answer to the question would be, yet follows what my class teacher in 2018 said:

'I would only use those books during PSHE or mental health week'

Contrary to this, feedback I received on Miley's Mind insinuates that those who bought it will use it often. Imaginably, this would be considered a subjective view due to people who know me unlikely to tell me that they will rarely use it. However, I have had feedback from two charities who work with terminally ill children; neither know me and are therefore likely to be objective. They said Miley's Mind has been used often, with several families taking the book home to read with the siblings of those who are poorly, thus demonstrating a clear link with Diekstra's (2008) Dutch study. Although I have claimed that comparisons between Dutch children and British children are not comparable due to the far lower rates of mental health in Holland (UNICEF, 2019), this feedback has highlighted the similarities that can occur.

What age range of children find literature and story books most beneficial to their emotional well-being?

This focus area has caused most controversy, with this study and existing research offering multiple different perspectives. Children of different ages respond in various ways to stories which address sensitive topics (Sunderland, 2017). This view was similarly argued by Lowfield (1991) yet, with a publishing date of 30 years ago, some may consider Lowfield's view to be outdated as stories, awareness and what would be considered a 'sensitive topic' has changed in three decades.

Whilst quantitative data suggests that over half of participants would consider the six to eight-year-old age category to benefit most, qualitative data suggests several participants think all ages of children benefit, supporting O'Sullivan's (2005) studies:

'I actually believe all ages will benefit from tremendously from using stories (...)'

Whilst another agreed:

'I do think the right book could be useful at any age (...)'

It is not made clear through the survey, due to anonymity, who these people are or what their school experiences have been. Perhaps these are people who have worked with older children, therefore giving their beliefs credibility, or perhaps this is just a speculative view. Future research would benefit from interviews with teachers/students in both primary and secondary education in order to ascertain the similarities/differences between the two.

However, this view is not one I personally uphold. I believe, hence my decision to publish a book aimed at this age category, that children in Key Stage One and Lower Key Stage Two benefit the most, yet I acknowledge that there could be limitations to my perspective. Having mainly worked with children of primary age, I have very rarely had the opportunity to observe how older children respond. Despite working as a TA in a secondary school when I was 18, it was not within my remit to share stories; the focus was more on behaviour management. Therefore, my view is restricted.

Other participants appear to agree that literature gives younger children the language to express themselves, thus also in line with Wetton's (1995) research:

'It may be difficult for younger children to come to terms with difficult topic (...) Stories give them a way in which they can understand visually (...) and gives a narrative so they are more likely to remember it.'

Also,

'Younger children tend to empathise more with characters from stories.'

Again, there limitations that should be acknowledged. The term 'younger children' is ambiguous. The survey did not ask them to be specific with their responses and therefore what one may consider to be a young child, another may not. It should be assumed, however, that participants are talking about those in the 'three to five' category, or the 'six to eight' category.

It is important to note that several participants suggested older children benefit more from real-life case studies:

'I believe discussions with real life case studies are more appropriate.'

Plus,

'Older children are happy to reflect directly on real-life experiences.'

The research in the literature review does not explore the impact real-life case studies has on older children. Further exploration here would be beneficial. Yet, I have to agree with these participants. Because older children are more aware of their surroundings, a more concrete look at a certain situation, such as bullying, using real life stories, can create greater impact and make the situation relatable.

Is PSHE education the most efficient time to discuss sensitive issues through children's literature?

PSHE education is most effective time for addressing sensitive topics: the group format provides commonality so that children know they are not alone (Rowlinson, 2014). It is a crucial time within the school week for talking about topics which may cause children distress (Willis, Clague and Coldwell, 2013). Conversely, this study opposes this.

Only three people confirmed they would prefer to discuss sensitive topics in PSHE alone. Quantitative data demonstrates how 25 participants would choose to discuss sensitive topics both within PSHE and outside of PSHE, suggesting other times can be equally valuable. This is in line with Formby et al. (2011) and Brown et al. (2011) who both strongly recommend other lesson time should not be discounted. Likewise, Diekstra's (2008) study demonstrates that discussion at home using literature, regarding sensitive topics, is thought to be most beneficial.

These limitations of this survey are noteworthy here. For example, the survey question merely asked whether participant preferred to use stories within PSHE, outside of PSHE, both, or neither. On reflection, the question posed did not elicit a specific response – it was not clear whether the question could relate to home life. Therefore, future research to support/contradict Diekstra's (2008) view could perhaps address this further.

There are similar findings, however, between the survey and my auto-ethnographic positioning. Whilst working as a TA, and supporting some of the most vulnerable children during lunchtimes, I witnessed how the use of literature during this time helped a child overcome adversity. Although I do not believe it was the book alone which accommodated this recovery, I do believe it played an important part and, crucially for this study, the book was introduced outside of PSHE education; demonstrating how other lesson time can be equally effective. That said, I am only recalling one incident where this has happened and therefore more data would need to be sought to ascertain whether this is typical.

Conclusion

This study has met the research aim. It found that children's literature is helpful for discussing sensitive topics, both for the child and the teacher/parent/carer, thus in line with the majority of existing research. It highlighted how there is controversy about which age category of children benefit the most. Quantitative data suggests those aged six to eight years of age find it most beneficial; yet qualitative data and existing research imply children of all ages benefit. The importance of PSHE education was confirmed in the literature, yet participants did not seem to think PSHE should be the only lesson time in which to discuss sensitive topics, as also confirmed by Formby et al. (2011). Although a thorough analysis has been completed and both traditional and creative research methods contributed to this study, it was small scale and therefore limited in perspective. Future research could be conducted in this area, especially with a focus on the delivery of children's literature at home. I aim to use this research in my practice and to contribute to the publication of additional children's books.

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What can you say without even saying it?

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If you are currently training to be a teacher, I can guarantee one of your biggest struggles so far has been behaviour management. Many trainees, myself included, find this to be their biggest challenge. This is no surprise, as over the last few years the number of permanent exclusions in England has been rising, especially in my teaching area, the West Midlands (Department for Education, 2018). This indicates that either, one, behaviour is worsening, or two, behaviour management is weakening, which is reflected in Ofsted's 2019 framework having greater focus on behaviour management in schools (Ofsted, 2018). This issue is heightened with reports stating that 10 minutes of time per lesson is lost to low-level disruption (Ofsted, 2018), which will be impeding the progress students make. Therefore, especially as trainees, we need to focus on perfecting our behaviour management. Could the trick we are looking for be in what we do not say, rather than what we do?

Waltzlawick's idea that "you can't not communicate", as quoted by Craig (2005: 3), shows that as teachers, we need to be aware that everything we do sends a message to our students. It has been shown that 63% of what we communicate is non-verbal communication, including our body language and non-verbal behaviours (Navarro and Karlinns, 2008). These are powerful signals, which can be used to convey meaning. Bennett (2016) has suggested that teacher training providers should focus more on the use of body language for controlling behaviour. With evidence suggesting that too much teacher-talk can lead to poor behaviour (Sida-Nicholls, 2012) and that teachers who use more body-language have more efficacious teaching styles (Charite and Millers, 2016) backs this suggestion. So, how can our body language be used to influence the behaviour of our students, and in turn the progress that they make?

Chapalin (2018) identified a large range of non-verbal communications. Based on my own trainee experience and research, I have summarised the main four we as trainees should perfect during our training below, with my own examples from the classroom.

1. Dress and Address

You may think that how teachers dress and being called Sir/Miss/Mrs is just common place in schools, or a tradition that has been passed down (Bloom, 2014). However, they have much more power on your students and their behaviour than you think. In around 2014 a debate occurred surrounding the use of titles to address teachers, with some schools opting for the Swedish method of using first names (BBC, 2014; Fraser, 2014). However, evidence has shown that the hierarchical nature of schools is reflected in the use of titles, which

ensures that students give respect to their teachers (Fraser, 2014), and in turn the teachers ability to maintain good behaviour. A difference in this respect and behaviour can also be seen on non-uniform days. This is because how we dress changes how people perceive us, and therefore sends a message to our students about us, such as how confident we are at our job (Slepian et. al., 2015). It can also impact our ability to do our job, as dressing smartly has been shown to boost cognitive ability (Catapano, 2016). Its importance was reflected in Ofsted's clamp down on 'scruffy teachers' (Paton, 2014). So, on a non-uniform day as I stood at the front dressed in a Christmas Onesie, the students perceived me to be relaxed and not taking my job seriously. This was reflected in my ability to control the class. So next time you are staring in your wardrobe deciding what to wear, for the sake of your behaviour management and how your pupils will see you, pick the smarter of the options.

2. Walk the Walk

I am short (5'2"), so many of the older students tend to drown me in a crowd as I move through the corridors. However, during my placements I have come across many petite women who can police a corridor and install a little bit of 'fear' with how they walk. So, we need to be aware that whilst teaching and around the school, how we move is sending messages to the students and affecting their behaviour. This is because our energy is reflected to the students (British Council, 2006). If we lack energy and strength in our movement, they will see this as a weakness, so walk with good posture with eyes looking ahead. However, it's not just how we walk, but where we walk that is important in the classroom, as it also sends messages to the students. If you are sat, students may think you are not paying attention, and if you stay with one-person other groups may go off task. However, crouching beside someone keeps you mobile, your presence is less intimidating but the whole class are more likely to stay on task (British Council, 2006). So, next time when you are planning a lesson and thinking about your behaviour management strategies, plan where you are going to move yourself throughout the lesson and the impact this may have on behaviour.

3. Stand and Deliver

As trainee's, how we stand in the classroom is important as it is the first impression our students will have of us. The correct posture has been described as adopting winner body language (British Council, 2006), with rolled back shoulders, firm planted feet, an open chest and with head up. This is because this position gives you a powerful look as you are taking up space with your body which sends a message to students that you are in charge. What you do with your hands is also important, as this can impact students behaviour (Impact Teachers, 2017). For example, hands at 45 degrees show you are wanting to hear their ideas, and palms down indicates calm and quiet. Another tool is emblems, which are gestures that convey a distinct meaning (Ekkman and Wallace, 1973). They are consistently used in behaviour management by many experienced teachers I have observed. Examples include a finger on the lip or hand in the air to ask for quiet, the twisting of the finger to mean turn around, or a tap on the table to mean pay attention or get back on task, along with many others. Emblems are effective because they allow for management of low-level disruptions without interrupting the

flow of the lesson, whereas illustrators are gestures that keep students engaged with what you are saying (Ekman and Wallace, 1973). Using in-conjunction with your stance, these gestures can impact the behaviour for learning in your classroom. I suggest that as trainees, we observe experienced teachers, create a bank of gestures and use them consistently in our behaviour management.

4. Your face says it all!

'Do I look impressed?' – How many times have you heard a parent or teacher say this to a child? This is because we expect people to be able to tell how and what we are thinking based on our facial expressions. Though Ekman (1957) said that facial expression is the hardest of the non-verbal communications to read, if your face shows a distinct enough expression, it can convey meaning in the same way as a gesture (Ekman, 1957). Research into their use by teachers has shown that facial expressions can be one of the easiest ways to give our praise or to reprimand students (Butt and Iqbal, 2011). It is therefore a great behaviour management tool that can be used without having to interrupt the flow of your lesson. This could be the raised eye brow that says 'Should you be doing that' or the squinty eyes which say, 'Stop what you are doing', or the many other faces I have seen teachers use with expert precision in the classroom, and tried myself with some success. So next time you look at yourself in the mirror, see if you can develop some 'teacher' looks of your own.

Though these non-verbal communication tools have all been proven to be effective in managing behaviour, they will not work all the time. It has been shown that students with autistic spectrum disorder find it difficult to read body language (Basu, 2009). Also, though using gestures can help EAL students follow the lesson, certain non-verbal communication has cultural origins (Beadle, 2010), and therefore can be lost in translation. These need to be taken into consideration because the Birmingham area has the highest immigration rate in the UK outside of London (Office for National Statistics, 2018a), and the number of SEND students in main stream secondary schools is increasing nationwide (Office for National Statistics, 2018b). As trainees, we should therefore need to be mindful of these barriers to the use of body language in the classroom.

So, fellow trainees, here is my advice to you and myself. As you go into your second placements of the year, take a bit of time to consider how you can use non-verbal communication to maintain student behaviour and, in turn, their progress in your classroom.

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English as an Additional Language: My Journey of Training to Teach

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This article is a summary of my professional and personal journey to become a physical education (PE) teacher having English as an additional language (EAL). My intention is to raise awareness of the cultural and linguistic barriers that many students with a background similar to mine must face to become PE teachers in a country with a language other than the one of origin.

My Background

The reason I decided to become a PE teacher originated from my personal experience. I have emigrated twice in my life, the first time when I was nine years old and the second time when I was 26, after finishing my degree. I come from a family from a low social class, who, fleeing the violence in Argentina, decided to seek a future in Spain. This fact, together with educational inequalities and cultural, ideological and even linguistic differences, affected my vision of the world and where PE classes became my refuge to feel accepted and demonstrate to my environment that although there were differences, I could integrate. Due to my social status, I experienced the inequalities imposed by society, and the feeling of never belonging to a social class that has the means and stability to attend extra-curricular clubs; this fact helped me to identify myself as a defender of social justice. I discovered that I could carry it out using PE, the educational environment where you not only learn about sports and physical activity, but also about the values that are promoted in their practices (Moreno *et al.*, 2009).

I studied my BSc in Physical Activity and Sport Sciences at the University of Leon, Spain. By then, I had already travelled to various parts of the world and together with the international experience I had at *The International English School*, in Toronto, where I discovered the importance of multiculturalism, it inspired me to continue traveling in order to understand other cultures in more depth and apply that knowledge to my future classes. My desire to learn about the privileges of one society over another led me to accept a volunteering role in Bangladesh as a PE teacher, where my aim was to provide the best PE experience to the students, considering the limitations involved. But one of my professional goals after finishing university was to be able to study for a PGCE in Secondary PE, teaching in England.

My Level of English and Teaching Training Journey

English has always been a difficult language for me, perhaps because I emigrated at an age when my classmates already had an educational base in this language and it took a lot of effort to pass my assessments in my high school. Therefore,

the need to perfect my skills and my desire to improve made me venture to emigrate and continue to grow personally and professionally. My journey in learning English was varied, since a large part of my linguistic development took place on my trip to Bangladesh, one of the most enriching experiences on a personal level that contributed towards training me professionally. When I returned to the UK, I went to live in Bristol and later Edinburgh, which contributed to my hearing development, as I discovered how varied the accents are in the UK.

Garcia (2002) mentions that we must bear in mind that feelings are the basis of our stability, and that fears or insecurities have an important influence when carrying out an activity. To understand the different insecurities that a person with EAL faces in the beginning, I considered the classification that Buitrago *et al.* (2008) propose useful. The causes they mention are the social factors such as public shame or teacher-student judgments; cognitive factors such as little vocabulary and grammar; methodological causes as evaluation and grades or for psychological reasons such as lack of self-esteem, frustration, lack of feeling of error or lack of affective support. For me, recognizing, accepting and working on the feelings caused by insecurities is essential for that person to progress and develop their academic potential. In my opinion, it is important to promote an education where students have the possibility to work on self-confidence, accept their origins and love their way of seeing the world. I see this personal work that I did reflected in my classes when I observe students with SEN, making it is easy for me to build a relationship and encourage them to love their differences.

My journey into teacher training hasn't always been straightforward. The following is a brief summary of specific episodes that caused anxiety and insecurity for me:

1. UCAS and the statement: As I learn more about the UK education system, I can see how from secondary school it is common for young people to learn to complete applications and write a statement about their professional profile. However, this simple step was entirely new to me. I had to do extensive research on the equivalence of my qualifications and learned the importance of always invest for internationally recognized certificates. It took me several weeks to prepare a statement that accurately explained my background and which contained no spelling errors. With my limited English skills, the simplest method for me was to do it in Spanish and then translate it. It is challenging for me to find the right words to convey my idea to the reader while avoiding ambiguity. When I write directly in English, on the other hand, I get the impression that the grammatical structure is not formal enough for the education environment. The cognitive and social factor of this situation caused important moments of anxiety and frustration, but reading books like *Thinking fast and slow* by Daniel Kahneman (which I highly recommend), helped me to understand my attitudes and thoughts.
2. Interviews: Getting nervous when conducting an interview in English is common. I remember the first interview I had in the UK in which I did not even know how to introduce myself. This has since changed, but anxiety is still present on many occasions. Cognitively I am making an extra effort when I expose myself to an interview, many times I am speaking and translating at the same time. There are times when I think in Spanish

and speak in English and others when I directly do everything in English. It is a complex information processing that is done automatically. As Hall (2001) says, the speech is sometimes grammatically incomplete at word and phrase levels which makes it difficult for the receptor to understand the message; or in my case, could affect my professional profile. Added to this fact is the frustration of knowing that I will be assessed towards gaining this job with my speech being a large consideration and not because of my ten years of dedication to my profession.

3. Test comparability: Once accepted at the UEL for my PGCE, I had the challenge of the numeracy and literacy tests that, being in English and having a time limit to answer, made me wonder that the evaluation system does not represent equal opportunities. In my opinion a person is not better or worse teacher for taking a 20-question mental agility exam; we are different, but we are all worth the same. The GCSE exam in English, for its part, involved the contribution of a large sum of money for the evaluation of reading comprehension of a person who had been in the UK for just four years and had just been accepted at the University. I found this offensive and I remember only having one opportunity to pass it or lost my place.
4. Expectations: Throughout my life, I have always felt like a privileged individual who has had access to education and has been able to have this experience. That is why the expectations I had about the University in London were extremely competitive. I arrived energetic and eager to hear about social injustice, change, cooperative work opportunities, freedom of expression, and educational innovation. Unfortunately, my expectations besides my prior knowledge of education, and cultural differences or communication issues, made me feel isolated at first, with a huge difficulty to integrate and where I began to observe the social problems of London. I have been fortunate to find a group of professionals such as Dr Shrehan Lynch and Laura McBean, founders of the BAMEPE movement (<https://bamepe.wordpress.com/>), who align with my educational philosophy and have been a great help for the development of both my self-confidence and my ideas. Finding intellectual understanding with other professionals, despite linguistic differences, have reinforced my dive and ideas towards social change through PE.

Training to Teach

Diversity and multiculturalism are commonly discussed in the educational sector, but, as teachers, do we know what to do with it in our classes? Are we willing to offer real opportunities to ideas that are controversial to our tradition? In this stage I was faced with the question, Is PE multicultural? Is it possible that you can have the same opportunities for educational creation and innovation as a teacher with another subject? After my recent reading of *Pedagogy of Freedom* by Paulo Freire, where the reader can experience a journey towards reflection and educational criticism, it helped me to comprehend my critical thoughts about education. A student with EAL has a deep-rooted culture and in my case, most of my training in the science of physical activity and sport has been created in another country, so, does this society in which I find myself expect that the PE I provide needs to follow traditional educational patterns? The confrontation that I had in this part of my journey focused on the differences in the philosophy of education, individual

freedom and on the retrograde codes of classist and sexist schools, which promote an atmosphere that does not represent the needs of the students. Culture and linguistic development are closely related, as explained by authors such as Kuo and Lai (2006), who believe that for students with EAL to be experts in that language, they must know about the culture that surrounds it. I consider it appropriate to mention this perspective because it may help future teacher trainees from other parts of the world to understand that these cultural conflicts are normal.

Abbreviations are used in the English education system regularly, and from my personal experience as having EAL I can say that it took me a personal effort to be able to pay attention to the conversation and the search for their meaning [Editor's note: See following article for support in this area]. I suggest providing to the students with a list with the acronyms used that day in class. On many occasions I would have liked to participate more in the lectures but I was terrified of speaking badly in front of the entire university. I remember that I used to think whether what I wanted to say was correct or not within the educational environment in which I found myself, so I ended up keeping my observation and reflection to myself.

In terms of the placements, I have to say that in both I had to deal with situations in which the students at some point, commented on my speaking. Obviously, these are problems that do not affect me in the same way they do now, but at the time, it was a situation to deal with that was added to the usual ones that any student in training faces. Innocently, I attempted to carry out activities and ideas that, from the perspective of PE in Spain, are typical, but were unusual here, and I found myself alone and disoriented on several occasions. What helped me to feel safe at the time of taking a lesson was the previous preparation of the information that I was going to use and write it on the whiteboard (and always the translator with me). It is essential to prepare your lessons to have confidence in your work. In my first placement, I was fortunate to have a wonderful professional mentor who, despite our differing perspectives on PE, assisted me in understanding the curriculum, planning my classes, and providing excellent emotional support, as I always encouraged trust in myself, and in my way of speaking. As we seek acceptance of our new environment, positive reinforcement from our professors, mentors, or classmates plays a crucial function for learners with EAL.

Becoming a NQT

I attempted to apply to various schools without success. I must say that the simple act of filling out an application pack is a basic step for which we do not receive assistance, and in my case, I had questions about even in the most basic details. The impact of covid-19 on education also affected my job search and the expectations I had of working abroad. My first employment as a PE teacher, which I obtained through an agency, was in a school with which I did not share the same educational philosophy, but there I met wonderful people who became incredibly supportive; perhaps another article I write will be regarding our experiences with teaching agencies and the lack of knowledge about our rights as educators. I lost half of my NQT year to "word contracts", and I think it is a problematic issue for many professionals. From my point of view, it is very difficult to find the ideal school using agencies, since they are rarely interested in the personal characteristics of the candidate.

At first, I had to deal with certain issues. One of these was racism from some students. After a while, they learned from me. This experience helped me to work on my emotions in front of the students and to remember that tiny gestures and dialogues generate societal change that future generations will remember. Additionally, I was of great help to other EAL students, who felt isolated from their group and saw me as a role model. Before I left the school, for my own professional development, I distributed a survey to the students, asking whether they found it difficult to understand me and this helped shape whether I should make any changes. It was at this point that I realised the only obstacle we face is our own negative thinking, and that the students see beyond verbal language, they look at the attitude and personality that the teacher has with them.

“It’s mainly about her personality and how she acts towards others” Y9 student.

“Advice would be to keep up being positive because her positivity reflects on the students...” Y10 student.

Asking your students what they think about your work is a powerful tool that can help you progress and build constructive communication between both sides, because ultimately it is not all about you (as the teacher). Recently, after starting my journey at an SEN school, I have found a place where, for the first time, I feel integrated, that is, where my students and the team are passionate about my identity and my PE lessons.

My Top Tips

My advice for anyone who is in the same (or similar) situation to me would be:

1. Try to find your bubble. Those professionals who have your point of view and are willing to help you.
2. Recognize your strengths and the reason why you are there every day. Write down the areas you need to improve in and aim to work on these.
3. Always believe in your ideas. One of the most important things I learnt on my travels is that the world has many people who live their life differently, in another reality. Your point of view could be helpful to others.
4. Never forget your goal. If I listened to everyone who told me that becoming a PE teacher held no future, that the pay is poor, I would never have grown up as I did in my life.
5. Do not use google translator for everything. It is better to write using your English and then try to improve it. Normally I write in Spanish because I feel freedom and I can better express who I am.
6. In your teaching, use resources for you and your students. I write everything in my book and double check the grammar.

7. Do not be afraid to say no to a job where you are not comfortable. It is difficult to transmit positivism if you are not emotionally happy. Respect who you are, respect your identity.

8. Take a long breath and then talk or write an email. Personally, I used to write fast or talk immediately and my thoughts came through, making a lot of mistakes, so TAKE YOUR TIME.

9. Read many articles about education in English, it will help you learn keywords in your area and improve your English.

10. Write. This is my favourite tip. Write down everything that happens to you: your feelings, your thoughts, what happens in your day. This is your journey, the journey of your life and you should keep any moment because it is unique and will help you in the future to analyse new situations. I have many books writing about my critical thinking, my vision about everything, my frustration and my victories which help me to be strong and continue growing as a person and as a professional.

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Commonly heard abbreviations in English schools: A help sheet for new teachers and teachers with EAL.

Grant Huddleston

A	A level	Advanced level examinations	AQA	Assessment and Qualifications Alliance Examination Board
	ACE	Advisory Centre for Education	AST	Advanced Skills Teacher
	ADHD	Attention Deficit Hyperactivity Disorder	AT	Attainment Target (in National Curriculum)
	APT&C	Administrative, Professional, Technical and Clerical	ATL	Association of Teachers and Lecturers
B	BA	Bachelor of Arts (qualification)	BEd	Bachelor of Education (qualification)
	BAC	Behaviour and Attendance Collaborative	BSc	Bachelor of Science (qualification)
	BAME	Black, Asian and Minority Ethnic	BSP	Behaviour Support Plan
	BDA	British Deaf Association	BSS	Behaviour Support Service
	BDA	British Dyslexia Association	BTEC	Business and Technology Education Council (a vocational qualification)
C	C&G	City and Guilds	CCT	Chartered College of Teaching
	CAD	Computer Aided Design	CDT	Craft, Design and Technology
	CAF	Common Assessment Framework	CIF	Common Inspection Framework
	CAMHS	Child and Adolescent Mental Health Service	CPD	Continuing Professional Development
	CAT	Cognitive Ability Test	CRB	Criminal Records Bureau (DBS is now used)
	CCF	Core Curriculum Framework	CTC	City Technology College
D	D&T	Design and Technology	DDA	Disability Discrimination Act
	DBS	Disclosure and Barring Service	DfE	Department for Education
	DCPO	Designated Child Protection Officer	DI	The Dyslexia Institute
E	EAL	English as an Additional Language	EWO	Education Welfare Officer
	EBD	Emotional and Behavioural Difficulty	EYCS	Early Years and Childcare Service
	ECF	Early Career Framework	EYDCP	Early Years Development and Childcare Partnership
	ECT	Early Career Teacher	EYDP	Early Years Development Plan
	EHCP	Education Health Care Plan	EYFSP	Early Years Foundation Stage Programme
	ESW	Education Social Worker	EVC	Educational Visits Coordinator
F	FAETC	Further and Adult Education Training Certificate	FLLN	Family Literacy, Language and Numeracy
	FE	Further Education	FS	Foundation Stage
	FEFC	Further Education Funding Council	FSM	Free School Meals
	FEX	Fixed Term Exclusions from school	FTE	Full Time Equivalent
	FFT	Fischer Family Trust (a charity that provides estimates of pupil performance)		
G	G&T	Gifted and Talented	GCSE	General Certificate of Secondary Education (qualification)
	GCE A	General Certificate of Education Advanced Level (qualification)	GNVQ	General National Vocational Qualification (qualification)
	GCE AS	General Certificate of Education Advanced Supplementary (qualification)	GTC	General Teaching Council
H	H&S	Health and Safety	HODs	Heads of Department
	HE	Higher Education	HOYs	Heads of Year
	HMCI	Her Majesty's Chief Inspector	HSE	Health and Safety Executive
	HMI	Her Majesty's Inspector(ate)	HT	Headteacher
	HMSO	Her Majesty's Stationery Office		
I	IB	International Baccalaureate	ISEB	Independent Schools Examination Board
	IEP	Individual Education Plan (now an EHCP)	ISI	Independent Schools Inspectorate

	INSET	In-Service Education and Training	IT / ICT	Information Technology / Information Communication Technology
	IRT	The Identification, Referral and Tracking of children and young people at risk	ITT / ITE	Initial Teacher Training / Initial Teacher Education
	ISA	Independent Schools Association	IYSS	Integrated Youth Support Service
	ISC	Independent Schools Council		
J	JCQ	Joint Council for Qualifications		
K	KS	Key Stage	KS3	Key Stage 3 Years 7-9 (12-14 year olds)
	KS1	Key Stage 1 Years 1-2 (5 - 7 year olds)	KS4	Key Stage 4 Years 10-11 (15 - 16 year olds)
	KS2	Key Stage 2 Years 3-6 (8 - 11 year olds)	KS5	Key Stage 5 Years 12-13 (Post 16 year olds)
L	LA	Local Authority	LLDD	Learner with Learning Difficulties or Disabilities
	LAC	Looked After Children	LO	Learning Objectives / Outcomes
	LD	Learning Disability	LP	Lead Practitioner
	LEA	Local Education Authority	LPSA	Local Public Service Agreement
	LGPR	Leadership Group Pay Range	LSE	Library Services for Education
M	M.Ed	Master of Education (qualification)	MIND	National Association for Mental Health
	MA	Master of Arts (qualification)	MLD	Moderate Learning Difficulty
	MAT	Multi-Academy Trust	MPS	Main Pay Scale
	MFL	Modern Foreign Languages	MSc	Master of Science (qualification)
N	NAHT	National Association of Headteachers	NPQH	National Professional Qualification for Headship (qualification)
	NAPE	National Association for Primary Education	NPQSL	National Professional Qualification for Subject Leaders (qualification)
	NASUWT	National Association of School Teachers/Union of Women Teachers	NQT	Newly Qualified Teacher (from Sept '21, an 'ECT')
	NC	National Curriculum	NSPCC	National Society for the Prevention of Cruelty to Children
	NCVQ	National Council for Vocational Qualifications	NUT	National Union of Teachers
	NoR	Number on Roll	NVQ	National Vocational Qualifications (qualification)
O	OCR	Oxford Cambridge and RSA Examinations (Examination Body)	OOHL	Out of Hours Learning
	OFSTED	Office for Standards in Education	OU	Open University
P	PANDA	Performance and Data Analysis	PoCA	Protection of Children Act
	PANDAS	Performance and Assessment Documents	PoS	Programmes of Study (in National Curriculum)
	PAT	Professional Association of Teachers	PPA	Planning, Preparation & Assessment time
	PCT	Primary Care Team	PRB	Performance Review Board
	PE	Physical Education	PRC	Pupil Referral Centre
	PGCE	Postgraduate Certificate of Education (qualification)	PRP	Performance Related Pay
	PGDE	Postgraduate Diploma in Education (qualification)	PRU	Pupil Referral Unit
	PHE	Public Health England	PSA	Parent School Association
	PIN	Parents Information Network	PSHE / +C	Personal, Social and Health Education (& Citizenship)
	PIs	Performance Indicators	PTA	Parent Teacher Association
	PLP	Primary Leadership Programme	PTR	Pupil Teacher Ratio
	PMLD	Profound & Multiple Learning Difficulties		
Q	QA	Quality Assurance	QCA	Qualifications and Curriculum Authority
	QAA	Quality Assurance Agency for Higher Education	QTS	Qualified Teacher Status
	QAN	Qualification Accreditation Number		
R	R (Y1, Y2 etc)	Reception (Year 1 etc)	RgI	Registered Inspector
	RE / RS	Religious Education / Religious Studies	RoA	Record of Achievement
	READS	Racial Equality and Diversity Service	RSA	Royal Society of Arts Examination Board

S	SATs	Standard Assessment Task/Test	SMART	Smart, Measurable, Achievable, Relevant, Time-scaled targets
	SDP	School Development Plan	SMSC	Social Moral Spiritual Cultural
	SEF	School self-evaluation form issued by Ofsted	SMT / SLT	Senior Management Team / Senior Leadership Team
	SEN / SEND	Special Educational Needs / Special Educational Needs & Disability	SOP	School Organisation Plan
	SENCO / SENDCO	Special Educational Needs Coordinator / Special Educational Needs & Disability Coordinator	SoS	Secretary of State
	SENDA	Special Educational Needs Discrimination Act	SoW	Scheme of Work
	SHA	Secondary Heads Association	SpLD	Specific Learning Difficulty
	SIMS	Schools Information Management System (provided by Capita)	SSCO	School Support Coordinators
	SLA	Service Level Agreement	SSGO	School Sport Games Organiser
	SLD	Severe Learning Difficulty	STRB	School Teachers' Review Body
	SM	Special Measures		
T	TA	Teaching Assistant (& can sometimes be noted as 'Teacher Assessment')	TLR	Teaching and Learning Responsibilities (payscale)
	TES	Times Educational Supplement	TP	Teachers' Pensions
	TIB	This is Because'	TTA	Teacher Training Agency
U	UCAS	University and Colleges Admissions Service	UPN	Unique Pupil Number
	ULN	Unique Learner Number		
V	VA	Voluntary Aided	VC	Voluntary Controlled
W	WAGOLL	What A Good One Looks Like'	WBL	Work Based Learning
	WALT	We Are Learning To'	WILF	What I'm Looking For'
Y	Y1, Y2 etc	Year 1, Year 2 etc	YOT (or S)	Youth Offending Team (or Service)
	YIST	Youth Inclusion and Support Team	YTS	Youth Training Scheme
	YPLA	Young Person's Learning Agency		

Teaching and Assessing Early Acquisition

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The rich diversity of England's culture, society, and language, which has evolved over centuries is reflected in contemporary primary schools (The Bell Foundation, 2019). In England, official figures show that the proportion of pupils with English as an Additional Language (EAL) in mainstream primary schools currently stands at 21.1% (DfE, 2019:9). Despite the steady increase of pupils with EAL in primary schools for the past decade, the lack of support for learners and their teachers in improving the outcomes, as they underperform compared to non-EAL peers in English oral language, writing and reading, remain prominent issues (Dixon et al, 2020:309). In this article, I will be critically evaluating whether policies provide distinctive guidance for teaching learners adding English to their language repertoire. In addition, I will be analysing the Levels of Proficiency in English as an EAL Assessment Framework and exploring innovative practice for children working at Early Acquisition to optimise proficiency progression.

The Department of Education (DfE) defines pupils who have EAL, as those who have “been exposed to a language other than English during early development and continues to be exposed to language in the home or community” (DfE, 2013:8). However, EAL is a broad term and can be associated with all pupils with varied degree of proficiency in English at school onset. EAL pupils are thought to sit within and transition across five bands of English proficiency:

1. New to English,
2. Early Acquisition,
3. Developing Competence,
4. Competent,
5. Fluent.

Schools had a mandatory obligation to measure and report the English Proficiency of their EAL pupils in the annual School Census. However, The DfE (2020:5) found that the majority of schools (66%) had assessed the English language proficiency of all their EAL pupils in Spring 2018 but a small minority of schools (1,097) assessed less than half of their EAL pupils – together accounting for 47% unassessed. The report does not shed any light on the reasons why the schools did not assess all their children with EAL but also raises the enquiry of why did the DfE not moderate proficiency data and investigate the reasons behind this. By not declaring the percentage of learners across the levels of proficiency builds an inaccurate picture of classrooms for policymakers.

Although, it was discovered that a significant number of teachers did not know about the proficiency scale and needed more time to embed in practice (Flynn, 2018). Without offering further guidance for teachers, Ministers' decided to withdraw the requirement of assessing and reporting the position of EAL pupil's proficiency from January 2019, without any explanation. The Office for Standards in Education, Children's Services and Skills (Ofsted) state that using the proficiency scale is not fit for purpose to measure a student's progress in their English Acquisition overtime but rather an initial diagnostic assessment to determine the support to enable pupils to access the curriculum (Ofsted,2013:4). Regardless, The Bell Foundation (2019) advocate the validity and reliability of using the English Proficiency five-point scale and have used this to produce an EAL Tracker and Assessment Framework for an on-going cycle of formative and summative assessment to tailor teaching (p.3). Whether school choose to continue assessing EAL learners using the Proficiency Levels by The Bell Foundation or an alternative EAL Assessment Framework such as NADLIC and Cambridge Starters, Movers and Flyers Framework, each of these framework are built on the foundations of shaping biliterate learners by assessing listening, speaking, reading and writing.

Strand and Lindoroff (2020) found that two-thirds of learners are not gaining the academic linguistic proficiency to access the full curriculum because they were unable to move from Early Acquisition (p.7). It is crucial to consider whether learners with EAL were not able to access the curriculum because of their lack of English or were the pupils limited to areas of the curriculum because of their English ability. When children are working at Early Acquisition, they are no longer exempt from the National Curriculum Tests and English Teacher Assessments. Additionally, there is no adaptation made for EAL learners participating within the English Curriculum Tests, unlike the National Mathematics Curriculum Tests whereby teachers can apply on behalf of the child for up to 25% additional time; a scribe and the ability to write their response in their home language in which will be translated afterwards (STA, 2020:13). This then questions the teacher's choices to limit their exposure to the full curriculum that is spoken, read, and written in English in which they we be required to do independently. Because of this, EAL learners working at Early Acquisition did not achieve a good level of development in the Early Years (60%); below expected standards of phonics in Year 1 (76%) and below expected standard of Reading and Writing in the Key Stage 1 and Key Stage 2 SATs (DfE, 2020:16-17). The Government's EAL policy highlighted that the promotion of rapid language acquisition is paramount for inclusive mainstream education as part of the class teacher's responsibility for ensuring that pupils can participate in lessons (Arnot et al, 2014:14). Additionally, the DfE should provide guidance on how-to best support pupils to advance beyond Early Acquisition as this has had a detrimental impact on the outcomes of pupils in the National Tests.

Realistically, teachers and EAL learners are troubled with obsolete EAL policies and guidance dating as far back as 2010, with much of the content now removed – EAL Lead and Proficiency Scales. The NADLIC has stated for years, that the teaching and learning of EAL has a distinct pedagogy (NADLIC, 2019). Although dated, Andrews (2009 cf EEF 2016: iv) states that “there is a significant lack of EAL pedagogy and too much overlap between Special Educational Needs (SEN)

provision and the teaching of pupils with EAL". This seems to be a prolonged issue, demonstrated in Ofsted's Education Inspection Framework (EIF) which evades monitoring the language development of EAL. Despite it being one of the DfE overarching aims to promote high standards of language within the National Curriculum and Early Years Foundation Stage Framework (DfE, 2013:13). Language development is essential to access the curriculum cognitively, socially, and linguistically (DfE, 2013:8) and participate fully as a member of society. "Pupils, therefore, who do not learn to speak, read, and write are effectively disenfranchised" (DfE, 2013:13).

Moreover, Vygotsky (1978 cf Wardman 2012:7) informs us, "language learning cannot be seen as a general phenomenon but rather as dependent on the social and cultural contexts in which it occurs, meaning that the process may well be different for each child". This may explain why Ofsted has deterred from monitoring language development as a whole-school context, as language learning is personal. In this case, Ofsted should be requesting to see a list of EAL Tracker, Assessment and Teaching Frameworks used by the school, an annually revised English Language Policy, and a clear indication of language development in the School Improvement Plan. All of which can demonstrate that the continual development of language is of the utmost priority for the learning and inclusion of EAL learners for the DfE and Ofsted.

A clear and explicit language policy is essential to help create a much-needed cooperation and consistency for EAL learners (OECD, 2010:47). On a national level, Language Policies can provide a picture of the degree of consensus between schools in their assessment of different facets of support for their EAL learners but also a clear understanding of the best EAL-specific teaching approaches they provide in these areas (Evans et al, 2016:10). A cohesive and systemic whole-school approach on EAL pupils home language in the classroom and beyond, known as translanguaging, helps set high expectations for inclusive teaching (Evans et al, 2016:57). A fully established Language Policy can reduce inconsistencies in teachers' attitudes, as Arnot et al (2014:42) found "classroom teachers seemed to have their own policy about language use which was underpinned by their beliefs about languages" and minimise the need for EAL students to adjust to potentially conflicting messages and pedagogical practices (Evans et al, 2016:58).

EAL-specific teaching approaches may include biliterate dictionaries and displaying the home language of the child/children on the board next to the new vocabulary. Having access to these resources can reduce EAL learners feeling overwhelmed with the dual task of learning English and learning through English. Translanguaging pedagogy encourages pupils to participate more in class, build up confidence, and validate the importance of language (Rosenbeck, 2016 cf Neault 2020:6). Research has found that when EAL learners use their full linguistic repertoire for learning they feel empowered and helped to reach their full potential (Garcia and Kleifgen, 2020: 554). Although evidence from multiple researchers confirm that the very use of the mother tongue assists in the learning of English by making the connection with pre-existing knowledge in the first language (Wardman, 2012:6), encouraging translanguaging can contradict with prevailing language-in-education policies (Garcia and Kleifgen, 2020:559). The DfE (2012 cf Arnot et al, 2014:14) states "maintaining mother-tongue rests with the ethnic minority community

themselves". Therefore, a Language Policy should state that the very use of translanguaging resources is a short-term distinctive teaching approach that supports the early learning of English before transitioning onto distinct inclusive teaching methods.

Demie (2018) affirms that English being the language of instruction, for pupils to access the curriculum fully and effectively, they need to become fluent in English (p.641). Instructional Language is present in everyday teaching and evident in assessment papers and has a direct effect on learning if learners do not understand what they are supposed to do (Sowell, 2017:1). However, instruction-giving is a skill that can be challenging, and teachers sometimes neglect the attention, practice, and recognition of its value for EAL learners (Sowell, 2017:1). Teachers often improvise instructions but have been found to not be as clear to the students as it is to the teacher (Ur, 1996 cf Sowell 2017:10). The Bell Foundation (n.d) recommend teachers use a teaching approach called Grading Language, which requires the teacher to use simpler grammar and vocabulary to ensure their instructions are clear, concise, and comprehensive but not complex. This does not imply the dumbing down of the content but an EAL pedagogy that maintains high expectations around cognitive challenge to access the curriculum. Therefore, the teacher needs to take careful consideration of the rich content that will need to be clarified or pre-taught to targeted EAL learners.

At times, understanding the content cannot solely dependent on written text and oral language, reports of linguistic devices – pictures, graphic organisers, modelling of body language and cues – supported learners understanding and progression (Evans et al, 2016:45). Blair et al (2018) support this, stating that the focus for teaching EAL learners should be on effective communication and meaning making (p.17). Using visuals when teaching support language processing, "by enabling the language demands of an activity to be reduced without reducing the cognitive demand" (Hall 1995 cf The Bell Foundation, n.d). However, it is important to consider the limitations to rapid language acquisition when using linguistic devices. For younger children, second language acquisition is being developed alongside conceptual development (Franson, 2011) and may prove difficult when trying to teach an unfamiliar concept or object to a child who have not come across this in the real-world. Older pupils have an advantage in terms of increased metalinguistic awareness that enables them to learn the new language more quickly by learning new labels for objects, ideas and concepts (Franson, 2011) but for all learners, including those of non-EAL, will see the difficulties in learning abstract concepts. In this case, Sowell (2017) recommends that the best strategy is Language Drilling, a teaching approach to be used at all levels of proficiency to introduce, revise and consolidate vocabulary that aids language acquisition and accustom to the language (p.13). Importantly, ensuring that the child still establishes a meaning and not use the memorisation of sound and sight recognition as this can become troublesome when faces with the vocabulary in communication, reading and writing.

To conclude, the DfE should support franchises such as The Bell Foundation and NADLIC, to produce a research informed National EAL policy that outlines the expectations for schools to devise a discrete and distinctive pedagogy for teaching children with EAL. The policy should outline the statutory requirement to measure, assess and report the

English proficiency of all children with EAL. In doing so, Ofsted will have an obligation to monitor the frameworks schools use and place a priority of the teaching for language development as a shared focus with the DfE. Schools should extend this focus by producing a school-specific Language Policy which values translanguaging as a distinct teaching pedagogical approach for the early stages of English Language learning. Finally, a statutory requirement for teachers to be trained in Grading Language to promote high-quality inclusive classroom teaching, as Leung and Creese (2010 cf Solomon and Richardson, 2019) claim “unless properly resourced with appropriate teacher expertise and knowledge, inclusive pedagogies may fail the very students they set out to support”.

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Should we app-prove digital parental communication?

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The increase in the use of the internet and the fact that “effective communication between home and school can be essential for helping student success” (Merkley et.al., 2006: 11) has led to many schools turning to mobile applications (apps) to communicate with parents. Will these apps help overcome the barriers to parental communication and engagement that schools are currently facing?

Parental communication is held in high regard by Ofsted (2018), and is a statutory requirement under the Education (Pupil Information) (England) Regulations (2005). This is furthered by the UK government’s continuing emphasis on the role of parental engagement on students’ learning (Ofsted, 2011). As educators we are required to “communicate effectively with parents” (Department for Education (DfE), 2011: 13), as well as safeguard students and their education. The demand for communication however, does not only come from government, but also parents, of whom two-thirds want to become more involved in their childrens’ education (Williams et. al., 2002). As Ponsford (2005) said, “it is vital that teachers assure those at home... are aware of what goes on in the classroom,” so it is down to us as teachers to find a communication method that works for us and parents alike.

Letters, parent-teacher meetings and written reports are the traditional methods of parental communication that are used to share the lawfully required data on attendance, progress, and behaviour (Huddlestone and Bills, 2012; Education Regulations, 2005). However, students do not always hand over written communication (we have all heard the ‘I lost the letter’ excuse). Also, parent-teacher meetings are reducing in frequency as the appeal of schools has been impacted by increased time demands on teachers and increased use of safety glass screens and doors, which I used to pass every day to enter a school in Coventry. Therefore, traditional methods are no longer enough.

During the 1980’s, student planners and the telephone were set to revolutionise parental communication (Lenters and McTavish, 2013; Bauch J., 1989). However, they have also become limited in their effects. Planners are still common across the UK, but this two-way communication tool’s effectiveness has declined due to their misuse by students and parents (Lenters and McTavish, 2013), which was a regular occurrence during my first placement. Finally, the number of direct phone calls home has decreased due to schools now controlling who can contact parents. At my first placement, school teachers had to complete long referrals for a phone call to be made by House Office, decreasing the frequency of contact using this method. These issues, combined with Birmingham having one of the highest numbers of people (many of whom will be parents) who do not speak fluent English (Office for National Statistics

(ONS, 2011), and the demand from Ofsted (2011) to increase communication, shows that for teachers to continue effective parental communication, a new method is needed.

Parental communication needs to be made simpler, easier and more efficient for both teachers and parents. With 80% of adults using mobile phones, and 97% of those using them to access the internet (ONS, 2018), an app could be the answer. There are a few out there already, but with a varying range of success. Secondary school options include the SIMS Parent app, which was released at the start of my placement at a school in Nuneaton. By December, 80% of parents had signed up, confirming that there is a willingness from parents to communicate in this way. Looking to primary schools for guidance, an app called 'Class Dojo' has been in use for the past five years, and has been given a lot of praise from the media and parents (Pondsford, 2015). So, can newly introduced secondary school versions solve the communication problems schools and teachers are currently facing?

Teachers are currently unable to work positively and productively with parents (Epstein, 2011), which I feel is due to their increased work demands. As a trainee, I have an appreciation for the increasing demands on teachers' time, and so an app which could be used for instant communication would be ideal. This could be made easier by linking the app to the school records system, such as the SIMS app being trialled in my first placement school. This meant that as soon as anything was logged on the SIMS system, it was sent straight to parents via the app. Another issue that prevents teachers effectively communicating is language barriers, especially here in Birmingham, where immigration is the highest outside of London (ONS, 2018b). A benefit of using an app, is that it holds the potential to translate any communication, therefore removing this barrier. Finally, the growing number of blended and split families (ONS, 2017) also hinders communication. If the app allowed parents of the same child to access data separately, or allowed parents with multiple children to access all of their data in one place, it would simplify the communication between families. Overall, the use of an app to mediate parental communication addresses many of the logistical problems teachers face.

A key part of parental communication is the sharing of pastoral information, which is essential under the law (Education Regulations, 2005). This is important, as exclusions - for which the West-Midlands had the highest number in the UK during 2017/18 (ONS, 2018a) - and absences have both been increasing nationally since 2015 (ONS, 2018a; ONS, 2018b). These issues decrease academic achievement (DfE, 2016), and breakdown in parental communication has been shown to be a key factor in their development (Cook et. al. 2017). Therefore, an app that allows teachers to effectively and immediately alert parents to these issues, as well as any other pastoral concerns, will lead to parents feeling more involved. This involvement has been shown by Goodall (2011) to increase the willingness of parents to work together with teachers to prevent such issues from continuing and affecting students' performance. Therefore, this communication method could help address these growing issues and positively impact students' attainment.

An app should not focus on the pastoral side alone, as it has been shown that “parental engagement at home makes the ‘greatest’ difference to student achievement” (Harris and Goodall, 2008: 277), as backed by a recent study (Wilder, 2014). The Guardian (2015) claimed that parents appreciate online support, and with 67% of parents already using the internet to support their children (Goodall et. al., 2010), providing support through an app seems ideal. The assistance which has shown to help parents support students’ learning, that could be facilitated by an app, includes reminders of homework or clear and specific support resources (Goodall, 2011). Furthermore, the use of databases to share progress data, as required by law (DfE, 2011), has shown to increase pupils’ attainment (Blau and Hameri, 2017), and could be achieved through an app. The possible increase in parental engagement would be favourable to teachers because the academic achievement of students is normally solely placed on themselves (Rogers, 2017). Therefore, not only will the integration of an app make it easier for teachers to communicate, but also holds the potential to improve students’ progress.

The benefits of using a parental app seem endless, but we must consider any downfalls. Firstly, it requires parents to have constant internet access. Though the ONS (2018a) claims that 100% of households with children have internet, the 20% of parents who had not signed up for the app in my placement school brings this into question. Most students whose parents were not using the app were pupil premium, so apps may increase the divide these students already face. However, traditional communication could still be utilised with these families. Additionally, the new GDPR regulations require strict control of where and who can access student data. This means that the app would need to have tight security features, though there are no reports which state this as an issue. Furthering the safeguarding concerns, Beadle (2010) highlights that instant notification may be a “catalyst for unpleasant experiences” if the child lives in a volatile home. Therefore, teachers would need to be aware of home-situations and be mindful of this when using an app. Finally, if an app only allows for two-way communication between parents and teachers, this will negate the essential communication with students who should not be “bystanders but contributors” (Epstein, 2011: 4) to their own education. Therefore, it will be important for teachers and parents to maintain verbal communication with students and use the app for guidance. Therefore, while all these issues raised are valid, there are ways around them.

‘Teachers and parents are believed to share common goals for their children, which can be achieved most effectively when teachers and parents work together’ (Epstein, 2011: 26)

Epstein’s comments emphasise how important it is to have effective communication in school. Though an app should not fully replace traditional methods of communication which parents still value (Goodall, 2011), I believe that apps have great potential to simplify increased parental communication and have positive impacts upon students’ progress.

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Differing approaches to the education of five to seven year olds:

A comparison of England and Estonia

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This article will compare the education systems of England and Estonia, with a particular focus on the education of children aged between five and seven. Estonia is being compared to England due to their increased success in the Programme for International Student Assessment (PISA) surveys and their contrasting pedagogical approach to teaching for children aged between five and seven. Estonia ranked eighth in Europe for reading and seventh for mathematics when they first participated in PISA in 2006; whilst students in the United Kingdom (England, Scotland and Wales are not ranked as individual countries) ranked tenth in Europe for reading and sixteenth for mathematics (Kitsing, 2008). The most recent survey, carried out in 2018, showed that both countries had made improvements, but whilst Estonia was ranked as the highest performing European country in both reading and mathematics, the United Kingdom ranked just sixth and tenth in Europe respectively (Schleicher, 2019).

Estonian Education System

In Estonia, compulsory education begins at the age of seven, although all children are entitled to preschool education from the age of 18 months. Local Authorities are required to offer preschool places to all children whose parents request them; an offer that appears to be well received by Estonian families as 94.7% of children aged between three and seven were enrolled in preschool at the beginning of 2021 (Peterson, 2021). As stated by Republic of Estonia, Ministry of Education and Research (2020) all children begin their mandatory basic education at the age of seven; this is divided into three stages with three grades forming each stage. Students graduate from basic education upon successful completion of three examinations and can then progress to either general or vocational secondary education before moving to higher education if they choose to.

Estonia gained independence from the Soviet Union on 20th August 1991. However, education reform began prior to this during the final years of the Soviet regime. As Krull and Trasberg (2006) note, during the late 1980s, Estonian educators became increasingly opposed to the compulsory curriculum which prioritised the teaching of Russian language and culture over that of Estonia. The renewed curriculum that they proposed was rejected by the Soviet Congress of Teachers resulting in further dissatisfaction, and as support for independence grew it was declared that Estonian legislation took priority, leading to the beginning of education reform. However, as reported by Krull and Trasberg (2006) this initial reform was not welcomed by all educators. As part of the Soviet Union, two separate education systems operated in Estonia: Estonian language schools and Russian language schools. Whilst Estonian language schools felt a renewed sense of independence and autonomy, Russian language schools tried to preserve the original Soviet curriculum, and this lack of cohesion combined with many leaders making incorrect decisions ultimately led to a rapid decline in standards (Krull and Trasberg, 2006). To build cohesion across the education system the Republic of Estonia Education act was passed in 1992 which outlined the general principles of education (Ministry of Education, 2001). A new curriculum for basic and secondary schools designed to meet the needs of a rapidly growing economy following independence was published in 1996 (National Center on Education and the Economy, n.d.); but national guidance for preschools took longer to be developed and the first iteration of the preschool curriculum was published in 1999 (Öun, 2020).

English Education System

Compulsory education for children in England begins at the age of five, but from personal experience most parents choose to send their children to school from age four when they join the reception class in a primary school; private and school nurseries are available for younger children. Education before compulsory school age is called the Early Years Foundation Stage (EYFS) which has its own curriculum and framework (Department for Education, 2017) and all state-funded primary and secondary schools follow the national curriculum comprising of core and foundation

subjects (Department for Education, 2014). Children move from primary to secondary education at the age of eleven and complete General Certificate of Secondary Education (GCSE) examinations in multiple subjects at the end of the school year in which they turn sixteen. All young people must continue their education until the age of eighteen; this can be achieved by staying in school or college or by undertaking an apprenticeship or traineeship (United Kingdom Government, n.d.).

The English education system underwent major reforms during a similar period of time to that of Estonia. The Education Reform Act of 1988, passed under a Conservative government, introduced a national curriculum for all schools including the knowledge and skills that children should acquire along with assessment arrangements for the end of each of four new 'key stages' (Gillard, 2018). Prior to this, teachers had the autonomy to design their own curriculum based on their knowledge of their pupils and families, and teacher's individual assessments were used to record progress and attainment (Shaw, 2011). The purpose of the new national curriculum was to ensure that all children studied the same subjects, and that parents and teachers could monitor progress against the standardised attainment targets in a time when the economy was growing, and employers were concerned about young people not adequately acquiring basic skills (Conservative Party, 1987). The new curriculum attracted many critics and questions were raised about how 'national' it was (as independent schools did not have to follow it) and why there had been very little in the way of consultation (Aldrich, 1994). Before the Education Reform Act was officially passed, Jack Straw (Shadow Education Minister) raised concerns about the proposed testing regime during a Parliamentary debate when he stated that "Under the guise of higher standards the Bill will label children as failures at the ages of seven, 11, 14 and 16" (Hansard House of Commons 1 December 1987 Vol 123 Col 781). The fourth version of the national curriculum is now being used within English schools but the argument about labelling children as failures is still relevant; the introduction of the phonics screening check in 2012 children means that children can now fail their first statutory test at the age of six (Roberts-Holmes, 2015).

Pedagogy

There are distinct differences between the curriculums experienced by children between the ages of five and seven in Estonia and England. As written in the Preschool Child Care Institutions Act, the main function of Estonian preschool is to help children develop so that they are socially, physically and mentally healthy, have confidence in themselves and are prepared for school and life beyond (Riigikogu, 1999). The development of children's social skills and their personal moral education is at the heart of the preschool national curriculum and to achieve this the curriculum is child-centred, with play being the dominant activity and way of learning. Children also need to meet specific academic outcomes before transitioning to basic school, but it is stated that these should be met via learning through play (Vabariigi Valitsus, 2011). During the Soviet era, preschool education was traditionally adult-led, knowledge based and very prescriptive (Tuul et al., 2011) but once Estonia regained independence alternative pedagogies were explored and the work of Johannes Käis was incorporated by many preschools (Õun, 2020). As described by Õun (2020), Käis emphasised the importance of putting the child at the heart of their education by taking their development and interests into account to create meaningful, individualised, learning experiences. This led to preschool education in Estonia becoming more child-centred during the Post-Soviet era.

Vygotsky theorised that learning should be a social activity and that through play and games children create opportunities for learning by imitating the behaviour of others (Aubrey and Riley, 2019); a theory that would appear to be the basis for the principles of the Estonian preschool framework. However, studies carried out by Ugaste et al. (2014) and Kimer et al. (2016) found that while Estonian preschool teachers value the child centred approach to learning they felt that activities led by an adult were also important for the teaching of certain skills; it could be concluded that this is because preschool teachers feel pressure to ensure that children are ready for basic school by performing in literacy and mathematics at a level higher than that stipulated by the national curriculum (Stein et al., 2019).

While the Estonian preschool curriculum is predominantly child centred with a focus on play-based learning and personal development, the English key stage one (KS1) curriculum is knowledge based and "introduces pupils to the best that has been thought and said" (Department for Education, 2014: 6). There is no legislation which stipulates the pedagogy to be used in KS1 but the EYFS statutory framework explains that the expectation is for learning to be more

adult led as the reception year progresses to “help children prepare for more formal learning, ready for Year 1” (Department for Education, 2017: 9). In a recent study, Nicholson (2019) interviewed a year 1 teacher and found that although she understood the importance of play for young children, she implemented a formal, adult led pedagogy because of the constraints of the national curriculum and its expected outcomes. This is a clear example of the curriculum influencing pedagogy and highlights that traditional teaching methods are being prioritised at the expense of learning through play because they are perceived as being the most effective way of ensuring that children meet expected outcomes (Kinos et al., 2016). It is not difficult to understand why this perception exists when you consider a recent speech by the Secretary of State for Education in which he states:

We know much more now about what works best: evidence-backed, traditional teacher-led lessons with children seated facing the expert at the front of the class are powerful tools for enabling a structured learning environment where everyone flourishes. (Williamson, 2021)

Assessment

At the age of seven, children in England have completed KS1 which comprises of their first two years of compulsory education and have participated in three separate statutory assessments; the EYFS profile which is based on teacher assessment, the year one phonics screening check and the end of key stage one statutory assessments in mathematics, reading and writing (children take two mathematics and reading tests to support teacher assessment). In direct contrast to this, children aged seven in Estonia have completed their preschool education and are ready to begin their compulsory education; they do not sit any tests and teachers are not required to submit any data to the government about the attainment and progress of pupils. Teachers prepare a “school readiness card” for each child which outlines their development in relation to the expected general skills as written in the preschool national curriculum; this is shared with parents and the child’s next teacher (Republic of Estonia, Ministry of Education and Research, 2019).

The purpose of the phonics screening check and the KS1 statutory assessments in England is to assess whether children have learnt to decode to an acceptable level and to assess their “knowledge and understanding of the KS1 programmes of study” (Standards and Testing Agency, 2018a: 18). They allow parents, school leaders and teachers to compare their results with schools on a national level and provide information for external agencies, such as the Office for Standards in Education (Ofsted), to use when evaluating school effectiveness (McIntosh, 2015). However, while these statutory tests may provide useful information for stakeholders, concerns have been raised about the negative impact on young children’s mental health; Burns (2016) reported that children as young as six suffered from exam stress and Weale (2017) stated that teachers had reported instances of children crying during tests and suffering from anxiety and depression.

Rather than testing, the focus of assessment in Estonian preschools is on supporting the development and creativity of the individual child to prepare them for beginning school (Republic of Estonia, Ministry of Education and Research, 2019) and children are not subjected to the same ‘exam stress’ as that of their English counterparts. The National Curriculum for pre-school institutions (2011) specifies that assessment should be a part of the learning process and that teachers should carry out observations of children participating in a wide range of activities to track their development and ultimately complete the school readiness card (Vabariigi Valitsus, 2011). Although extensive reading has been carried out, no critiques of the Estonian approach to preschool assessment have been found. However, in a study carried out by Stein et al. (2019) some preschool teachers did express concerns about completing the mandatory school readiness card as they felt that not all teachers in the basic schools used them and they were uneasy about writing negative comments which could influence the perception of a child.

Academic Outcomes

The Estonian and English education systems take differing strategies on the assessment of children between the ages of five and seven, and their expectations of what children need to achieve by seven years old are also vastly different; the expected outcomes for mathematics are a good way to illustrate this. As outlined by the Department for Education (2013: 5) the main purpose of mathematics in England during KS1 is to develop children’s “fluency with whole numbers, counting and place value” while the focus in Estonia is for children to look for “connections between objects”

and to “arrange, group and count objects” (Vabariigi Valitsus, 2011: 6). By reading these statements the two curriculums appear to share similarities; however, the expected outcomes for pupils show that children in England are expected to demonstrate a much higher skill level than their Estonian peers. English children should be able to “add and subtract any 2 two-digit numbers” (Standards and Testing Agency, 2018b: 8) while children in Estonia should “add and subtract within 5 and know the signs +, -, =” (Vabariigi Valitsus, 2011: 6). Despite the English curriculum having much higher expectations for children aged seven, the PISA results would suggest that Estonian children are more proficient in mathematics by the age of fifteen. This would seem to suggest that allowing pupils to build a solid foundation, rather than teaching complicated concepts early, results in rapid learning as children get older.

The end of key stage outcomes are what Bernstein (2000) refers to as the evaluative rules of the curriculum and in England they appear to have a direct effect on the pedagogy that is used in classrooms. Children aged between five and seven are in the stage of development that Piaget refers to as the *preoperational* stage. He proposed that children in this stage are unable to fully understand logic and concepts such as conservation and should be allowed to use play to develop their understanding of the world (Aubrey and Riley, 2019). The high expectations for children at the end of KS1 result in them being denied the opportunity to learn through play; Baber (2016) questions whether they fully understand what they are being taught and if there is any academic benefit to introducing complex knowledge so early. By comparison, the Estonian education system aligns with Piaget’s stages of development and the lower academic expectations at the end of preschool provide children the opportunity to learn through play and develop their social skills. Children begin formal education when they are in Piaget’s *concrete operational* stage; a stage when they can “perform more complex mental operations” and show an awareness of the viewpoints of others (Aubrey and Riley: 45). However, as discussed previously, some teachers in Estonia revert to teacher led pedagogy due to the higher expectations held by basic schools (Stein et al., 2019) which means that some children may be losing out on the opportunities to learn through play.

The curriculums of both countries include a wide range of subjects including art, music, physical education and science. However, children aged between five and seven could still be experiencing a narrowed curriculum due to pressures on teachers. In Estonia, this pressure is perceived to come from the teachers in basic schools. One participant in a study by Stein et al. (2019) felt that the demands of the preschool curriculum were not that great but teachers in basic schools expected children to be at a much higher skill level upon transition and so academic skills beyond the requirements were being taught. Children could have been learning these higher academic skills at the expense of other, more creative, subjects. Personal experience shows that children in England can also experience a narrowed curriculum, but rather than due to teacher expectations, because of the expected outcomes in the curriculum. Vaughan (2015) stated that teachers in the United Kingdom are “among the world’s worst for teaching to the test” and research has shown that young children in reception are already being prepared for the year one phonics screening check (Roberts-Holmes, 2015). To ensure that children pass their tests at the end of KS1, those that need extra support attend mathematics and literacy intervention sessions; often at the expense of subjects where they would be able to develop their creativity.

Conclusion

As has been discussed, Estonia and England take very different approaches to the education of children aged between five and seven. The Estonian preschool education is child centred, has a focus on learning through play, and children are observed during activities to assess their school readiness. By comparison, lessons in KS1 in England are predominantly formal and adult led, and children participate in statutory testing at the end of both school years. Teachers in both countries express feeling under pressure to ensure that children meet the prescribed expected outcomes, with those in Estonia admitting to reverting to some direct teaching to achieve this while teachers in England would ideally like to include more opportunities for children to play. The view of teachers would appear to be that a blended approach of adult and child-led learning would be the ideal scenario but neither curriculum promotes this. Both governments look to the PISA rankings to assess how well each country is performing internationally; if this is the only measure of success taken into account, then it would appear that the Estonian education system is more successful; beginning with a focus on developing both social and academic skills through play and a lack of statutory testing for young children.

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The Introduction of School Resource Management: How the government is changing the way schools set their budgets

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Education funding has been a contentious issue in recent years. Following the financial crisis of 2008, a period of austerity meant that school spending was cut (Granoulhac, 2017) and more recently the coronavirus pandemic has created more financial pressure. In recent years there have been numerous anecdotal examples of the impact of cuts on schools, one being when Siobhan Lowe, the head of Tolworth Girls' School in south London, made headlines for cleaning the toilets due to not being able to afford sufficient cleaning (The Times, 2019). Despite this (or perhaps because of this), the government attempted a counter narrative, with Schools Minister Lord Agnew promising he could find waste in any school and betting, of all things, a bottle of champagne in a challenge to headteachers to prove him wrong (SchoolsWeek, 2018).

Among the difficulties that schools have experienced, a new approach to school finance has gained traction. School Resource Management (SRM) (also known as Integrated Curriculum Financial Planning or Curriculum Led Financial Planning) is being used in many schools to make decisions about how they spend their money. SRM makes schools or Academy Trusts look at the structuring, planning and timetabling of their staff in “with the aim of having reasonable class sizes, driving up performance and creating a [budgetary] surplus” (DfE, 2016). Ratios and metrics are created, for example, the “teacher contact ratio” (the average number of teaching periods divided by total number of periods) or “cost per lesson” (teaching staff cost divided by number of teaching periods). The resulting figures are then compared to national benchmarks (PKF-FrancisClark, 2018).

Some have questioned the SRM approach, suggesting it is too clinical and that numbers on a spreadsheet cannot possibly capture the nuance of each school's needs. How then has the government persuaded uptake? I believe the answer is twofold.

First of all, the economic climate has prepared the ground for change. As Plato is often quoted as saying, “necessity is the mother of invention”; the financial difficulties many schools find themselves in had led to a need to look at new ideas. Outwood Grange Academies Trust pioneered the principles behind SRM and Sir Michael Wilkins, former principal of Outwood Grange Academy (the school from which the trust evolved) said of the period of austerity that “tough times bring decisions [around finance] into focus” (DfE, 2016).

Secondly, rather than make SRM a statutory requirement, the government has introduced a range of attractive government initiatives, which offer funding or training, but only if SRM approaches are used by the school. Various pots of money such as the Condition Improvement Fund or the MAT Development Improvement Fund were made available to schools or trusts on the condition that they work with the government's School Resource Management Advisors, who are strong proponents of SRM. National Leaders of Education (NLE) provide support for schools with a poor OFSTED report or low pupil outcomes. Schools will often readily accept the support, which is provided at no cost to them, but since 2018 NLEs have been asked to schools to review the finances of schools they work with in line with the SRM approach (DfE, 2019a). In addition, aspiring head teachers studying for the National Professional Qualification for Headship must now carry out a Strategic Resources Management review in another school as part of the course (DfE, 2019b).

The reach of these initiatives – and therefore SRM - is considerable. For example, 1,657 schools were eligible for financial review via the work of NLEs in one year alone (DfE, 2019c). Having originated in the secondary academy sector, this has also pushed SRM into the primary sector. More recently, there have been steps to mandate use of SRM techniques after they were incorporated into the Schools Financial Value Standard – statutory for all Local Authority maintained schools (DfE, 2021).

As an idea becomes more common place it gains credence, not so much on the merits of the idea, but because it is the norm. As Michel Foucault argued, deviation from the norm is difficult; normalisation has become “one of the great instruments of power” (1979:184). It's these subtle influences that have paved a way for significant change to the way schools' budgets are set. Around £50 billion are spent on schools in England each year (Institute for Fiscal Studies, 2020). What could have been a controversial development has gradually become, to borrow Norman Fairclough's idea of how contested ideology becomes accepted, “common sense” (1996:89).

In a time where the neoliberal trait of autonomy has been widely promoted by the current government (Brighouse, 2016), SRM seeks to lessen the choice individual schools have over how they set their budget. Glatter charted the development of school autonomy as a concept from the 1970s onwards and found there is a consistent trajectory of autonomy being ever more prominent in government rhetoric regardless of which political party was in power. However, Glatter also points out the paradox that despite the persistent and growing emphasis on autonomy, many in education considered themselves significantly constrained by government requirements (2012). SRM look set to continue in this vein.

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Overcoming colour blindness in the classroom- an inquiry into race and ethnicity in practice

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As a secondary trainee teacher, I am pursuing auto-ethnographic research into one significant incident that occurred within my professional practice. As a white female teacher, only two months into my teaching experience, an incident I have selected revealed issues around my ability to address and confidently handle the issue of racial difference in the classroom. My incident involves a Black British/African Year 11 student implying that I have racist intentions towards him during a drama lesson. I have chosen to reflect on this incident because it has altered my professional approach and forced me, in a very real sense, to confront the notion of racial identity, something which was unexpected.

In investigating my emerging identity as a practitioner, qualitative analysis is helpful in exposing aspects of my current teacher identity. Ethically, I am conscious not to name specific persons included in my study as Gutkind (2008:39) warns that “violating their [participants’] trust might destroy your relationship with them”, therefore within this auto-ethnographic study, I will anonymise individual names and my placement school. I am using an auto-ethnographic methodology as it “displays multiple layers of consciousness connecting the personal to the cultural” (Ellis & Bochner, 2000: 739) and in this way it enables me as a teacher-researcher to think about myself, my experiences and my feelings in a school context. Joan Didion published her book, “We tell stories in order to live” (2006), the stories we discuss allow us to think and, as a result, we can reflect and live better. Ellis (2000) states that auto-ethnography is a method of study and writing that aims to explain and interpret personal experience in order to better understand a unique experience. By focusing on this particular critical incident through auto-ethnography, I am able to engage with culture, politics and social research. It will also give me the opportunity to confront a conflict between insider and outsider viewpoints, between social practice and social restraint (Adams & Holman Jones, 2017).



Another reflective cycle is from Gibbs's (1988).

Using the Gibbs (1988) reflective cycle will enable analysis of the two view points in a structured manner, and will also allow me to learn over time and arrive at a more balanced and accurate judgement. On the other hand, critics argue that the Gibbs’ cycle can result in a more superficial reflection and a reactive not proactive conclusion (Gibbs' Reflective Cycle Explained, 2019). Nevertheless, using this cycle will enable me to reflect on the incident and will help me understand why I gravitated towards certain solutions and why I disregarded others.

The incident happened within my first 2 months of teaching at my placement school. Normally there are 27 students in each class, consisting of mixed abilities and diverse ethnic origins. This particular class was a small mixed year 11 group containing 14 students. However, within the class of 14, there were only 3 male students, one of whom was Black British, his family originating from Nigeria. I was talking to a White female student when I was interrupted by the Black male student asking if I could help write his lighting cue sheet; I politely asked him to go and sit down saying that I would be with him shortly to answer his question. He interrupted again so I repeated my first instruction. He then responded angrily, shouting, "It's always the Black boy" and disrupted the rest of the class. I ignored the comment and went to continue with the lesson, as I was not confident in confronting this at the time. My mentor, their usual class teacher, stepped in and did respond to the boy's comment and asked him why he had brought race into the equation. The boy shrugged and we then moved on from the situation.

At first I was a little taken back when my mentor stepped in, however, when staff intervened, I did consider whether or not I would be able to manage a similar situation in the future. I felt a little upset at being thought of as racist and became slightly worried that if this happened again, I would not know how to respond professionally or that I might offend someone in the future if I did respond. I have never experienced this situation before and, upon initial reflection, I was upset.

This particular incident has challenged my understanding about 'White Fragility', which DiAngelo (2018: 57) describes as a "defensive response by a white person when their racial worldview is challenged". It was good that this incident made me realise, that as a young White female, I do find it very difficult to talk about race. Using this new experience now, I am able to deepen my understanding and become more comfortable talking about incidents involving race and racism, holding students accountable for their unconsidered remarks, and raising my own consciousness about my racial identity in the classroom.

Going into teaching, I was very naive. I wanted to make sure that I had a successful teacher-student relationship with all my pupils. This is because teacher-student relationships have been described as a significant factor in students' progress (Pinanata et al, 2002: Walker, 2009), but relationships with teachers are extremely significant for Black students' academic and personal growth (Gillborn et al, 2012), especially with current issues revolving around the Black Lives Matter (BLM) movement. According to Mabin (2016), student perceptual data on student-teacher relationships revealed significant findings connected to the student-teacher relationship and both the students' and teachers' race/ethnicity. Black, White, and non-Black or Hispanic Minority pupils all demonstrated a rise in their perception of care from their teachers when they had non-White educators. Additionally, when students were paired with teachers of the same race/ethnicity, both White and Black students perceived their educators to be more caring. Unfortunately based on the study, the perception on the part of pupils of racial bias in the classroom can be one of the causes of a fractured student-teacher relationship (Stevenson, 2008). Due to the prevalence of micro-aggressions, Black students "can encounter unfairness and bigotry in schools and their classrooms with

teachers” (Feagin, 1991; Martin et al, 2010; Solórzano et al, 2000; Sue, 2010; Thompson & Gregory, 2010), which is something I have become more aware of in my practice.

As a White person, I subconsciously and unintentionally turn to a contemporary form of racism, Aversive Racism, which is a theory presented by Gaertner and Dovidio (2005). Aversive Racism operates unconsciously in subtle and indirect ways, and can be seen in the avoidance of challenging racism and/or negative feelings and beliefs. Gaertner and Dovidio, suggest that it may be rooted in normal psychological processes such as social categorisation. Personally I do find it uncomfortable to challenge racism or racist remarks and would normally choose to ignore them, however, according to Gibb (1961, p141) this defensive communication style is used unintentionally when an “Individual identifies a potential threat”. Gibb theorised that those who take a defensive stance gradually lose the opportunity to consider another person's point of view, which reduces students' perceptions of care. If I thought that the student was using race I would be saying that he was using racial issues to his advantage. This will merely quieten him in a circumstance where he was reacting from personal experience. The student felt discriminated against, and it was not my duty nor the time or location to suddenly end and/or de-legitimise his experience. Accusations of using racial identity would only exacerbate problems rather than promote healthy, open debate (Khilay, 2012). Indisputably, my mentor, who intervened, could have had this intention, which is why she questioned him immediately. By addressing the student's accusation, the discussion could be seen as beneficial to the learning process not just for myself and my mentor but also for the student (Sue et al, 2009). When my mentor, also a White female, questioned the student's use of language and his accusation, the student used an ego defensive attitude, shrugging his shoulders. When using this type of defensive attitude the individual attempts to safeguard his sense of self, taking on attitudes that protect his self-esteem or that justify his actions that might make him feel guilty (Millie et al, 2005). He could have reacted in this way because he felt uncomfortable and ignored by me and therefore felt frustrated, invalidated or discriminated against. His anger could have built up due to the micro aggressions of other teachers, pupils, friends or even family situations outside of school and therefore he decided, consciously or unconsciously, to disrupt the class.

Sue (2010) explains that micro aggressions are rooted in the customs of everyday life. These micro aggressions are subtle and indirect behaviours, such as being ignored, jokes and/or gestures (Coates, 2008). While some of these experiences may seem brief and harmless, many studies have found that micro-aggressions can trigger distress. Extending Feagin et al's (1991) point, it is possible that improperly treated, race issues can affect the quality of White teacher/Black student relationships and how students and teachers deal with alleged racial issues in the classroom. Acknowledging this is critical for keeping students involved in the learning process. Hence why, at the time, I thought it was best to ignore the comment which he made, to keep the lesson flowing without disruption. However, little is known about the extent to which students suspect their teachers of racism or whether students make such remarks to create classroom disruption.

There has been no comprehensive analysis of teacher reactions to racist allegations (Alexander and Shankley, 2020). According to one report, Black students who expected unequal treatment in the classroom due to colour, gender,

and/or achievements were more likely to be seen as rebellious and obstinate by their teachers, resulting in more disciplinary referrals (Gregory & Thompson, 2010). According to a recent UCL Institute of Education (IOE) report, 46% of all schools in England have no Black, Asian, or minority ethnic (BAME) teachers, and BAME teachers are underrepresented in senior leadership teams even in ethnically diverse schools (UCL, 2020). As a result, minority ethnic students may not see themselves represented in their educators, and all students potentially fall out on a diverse variety of viewpoints and information, as well as potentially socially inclusive and race-conscious instruction (Joseph-Salisbury, 2020). At my placement school, the classes and year groups are very diverse with students from all backgrounds, however, using the information from the school website and from the head only 8 teachers are from minority ethnic backgrounds out of 58 members of teaching staff. Within the 7 senior leadership roles there are no staff members that represent people of colour. This can be a hindrance to positive race relations as it is important that schools have more diverse staffing, sometimes this can be more important than student diversity; students in more diverse school contexts experienced reduced racial stress (Hancock et al., 2020).

In order to understand my own attitude to diversity, I have put to work Love's (2002) questions around ethnicity, which include; how do ethnic, class, educational, and gender biases express themselves in schools and classroom practices? How do people come to terms with racism and its effect on their lives? What are our students' cultural experiences, and how do we properly understand and respect them? (Love, 2002: 97). When thinking about these proposals, I questioned, how I, as a White female teacher, could possibly begin to understand the experiences of Black pupils subject to years of institutionalised discrimination (McIntosh, 1989) or what my role is as a White teacher in institutionalised discrimination? In McIntosh's article, "White Privilege: Unpacking the Invisible Knapsack" (1989) she defines 'White supremacy' as the belief that White people are superior to all other racial groups and should therefore be ruling over other groups. It could be argued that in this extremely diverse school there exists a version of this supremacy, as the staff cohort is mainly White. Lack of diversity within staff can limit staff and students' knowledge and acceptance of cultures. Children are also limited when teachers do not reflect on how their own racial/cultural backgrounds contrast with those of their students. Many teachers, including myself, avoid the issue by adopting a colour or culture "blindness" towards their students. Lorde (1982) believes that these views are adopted to "conquer it [racism and discrimination] by ignoring it" (P.81). Colour 'blindness' can and is something which can challenge the accusation of racial bias while avoiding the question of race. Colour blindness aims to defend against the negative effects of prejudice; however, evidence suggests that colour blindness can trigger feelings of racism (Schofield, 2010; Stephan & Stephan, 1984). I try to view all students as the same, having said that my cultural blindness can hinder me from obtaining the skills necessary to succeed with a diverse student population, especially those who have historically suffered the greatest disadvantage. It is argued that some teachers can make statements such as "I don't see colour". These attempts at colour blindness, however, conceal a "dysconscious racism" and "uncritical habit of mind", that justify inequity and exploitation by accepting the existing order as given (Milner, 2007). This is not to suggest that I or teachers who hold this view are racist in the conventional sense as they do not consciously deprive or punish Black or BAME children based on their race, but at the same time they are not conscious of the ways in which some children are privileged and others are

disadvantaged in the classroom (Ladson-Billings, 1994:31-32). As a White female, I have not experienced the discomfort of being treated differently because of my race and I have no authority to ignore the student's experience within the incident. However, I do believe I can justify questioning why my student felt that way at the time and in turn understand how my ethnicity might play an unintended role in it.

According to Addai (2018), claiming to not see colour is ignorant and not having to see colour is a privilege "arguably afforded to White people" and making such a remark represents a "refusal to consider race-related problems, allowing those who make it to live in a permanent state of ignorant bliss". White teachers can struggle to connect with students of colour. Many people are unaware of the difficulties that children and families of colour encounter. "For most White, middle-class educators, their race (skin tone) and nationality (historical, geographical origin) is an unearned advantage, not a liability" (Burns et al, 2006:14) and teachers need to be willing and able to talk about race and racism, and to teach in ways that promote anti-racism (Joseph-Salisbury, 2016).

Ultimately, race plays a crucial role in education within an ethnically diverse society, either positively or negatively. Understandably, talking about race is and can be a difficult topic and can be very uncomfortable for an individual who has never experienced first or second hand racism or been educated to talk about it. However, I believe more training should be provided in schools in order to feel comfortable when talking about race and informed on how to address the issues of micro aggressions and discrimination. All teachers should receive the same training so that all educators are equipped to deal with any situations involving racial discrimination in an informed and reflective manner (Joseph-Salisbury, 2020). Sue et al. (2009) proposed four concepts that teachers should be mindful of; firstly, teachers should be able to deal with challenging racial experiences. Second, teachers must be mindful of their own prejudices, perceptions, and assumptions; it is vital that educators should take the time to explore and reflect on their own racial identity, in order for them to have a better understanding of race and racial issues. Third, teachers should practice tough talks, such as racial inequality, racial accusation, and direct racism, not only through teaching or seminars, but in their daily lives as well. Finally, teachers must consider current school procedures and how to use them to cope with problems. To add to this, using the data from University College London (2020), I suggest that although it is challenging, schools should be pro-actively recruiting teachers from BAME backgrounds and including these teachers within senior leadership roles as they could be a direct role model for students from BAME backgrounds as well as influencing White students and staff. Schools should be able to accommodate students wanting to talk about their experiences of racism in a safe environment such as PSHE lessons, as without these tough talks, we will not be able to reflect and learn from our actions.

In conclusion, this auto-ethnographic study has found that including BAME staff members within the cohort can positively influence all students. It has also shown that societal issues can have an impact on young Black adults and as a White teacher one must be comfortable to talk about racism within society. Reflecting more deeply on my reaction to the accusation of racism and exploring literature on this issue has increased my awareness in a number of ways. Acknowledging the possible impact of 'colour blindness' and my unconscious avoidance of the lived

experience of inequality and racism in a multi-ethnic environment has raised a number of questions about how we as educators can talk about race and racism without causing distress and disruption. My journey as a young White female teacher feeling comfortable talking about race is just at the beginning. If I was to encounter another situation like this, and no doubt I will, I believe I would be better prepared to sit down with the student after class to discuss what actions and/or signs I displayed which caused the student to make an accusation of racial discrimination. Reflecting on experiences such as this through auto-ethnography, can help shape my teacher identity through increased self-awareness, knowledge, confidence and skills.

My action plan is to further explore historical and current racial oppression in UK schools; gain knowledge and understanding of the experience of White Privilege and how that can affect the experience of all the students in my class.

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Where are tomorrow's female scientists?

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At the start of 2020 Teach First launched its STEMinism campaign on the back of the revelation that half of the population (49%) could not name a female scientist (TeachFirst, 2020). It also revealed that not a single women's name featured in the Science GCSE, and after analysing three double science GCSE specifications found only Franklin and Leakey mentioned while over forty male scientist's names were featured (TeachFirst, 2020). How then can we expect the Science Technology Engineering and Mathematics (STEM) gender gap to reduce when young girls lack visible role models? There is no longer an argument about proving there is a gender gap in the scientific community but a discussion about how to fill it. In 2019, four years after the first international day of women and girls in science, women still only made up 24% of the STEM workforce (Middleton, 2020). There are many reasons girls choose not to continue in science, however, the Teach First report suggests that the reason girls are less likely to continue in science education once it is no longer compulsory is due to representation (Sundorph, 2020). It further suggests that if this is not changed, we will not unlock the potential of every child, no matter their gender (Sundorph, 2020).

Professor Louise Archer from the University College London (UCL) described an individual's science related knowledge, their attitudes, understanding and interest in science as their science capital (Archer, et al., 2018). The UCL's research found that 27% of young people have low levels of science capital, meaning they are less likely to aspire to study science in the future (Archer, et al., 2018). They also found that 'students who do not see science as meaningful and relevant to them find it more difficult to engage with the subject' (Archer, et al., 2018, p. 4). The PISA results from 2018 show very little difference between the mean score for boys and girls, with boys gaining 506 and girls 503 (OECD, 2021). However, when we look towards the future, at age fifteen 4.7% of girls and 18% of boys are predicted to have a career in engineering or computing (OECD, 2021). Furthermore, when girls do go on to graduate in scientific fields, many then choose to teach as opposed to working as professionals in that field (OECD, 2021). Therefore, it is not only that boys are more likely to achieve in science than girls, but that girls do not continue in their science education, leaving a gender gap in the STEM field.

It is interesting to note that research in 1998 found that both genders of children leaving primary school had similar perceptions of science (Woodward & Woodward, 1998). Furthermore, girls in particular were found to have made decisions on which areas of science they preferred and tended to prefer biological science (Woodward & Woodward, 1998). However, in the conclusion of this research it was found that girls' interest in science had significantly declined by the end of primary school and they recommended that science be targeted at primary level, as targeting science at secondary level would be too late (Woodward & Woodward, 1998). When we move forward to 2012, "girls attained three percentage points higher than boy" in their national Key Stage 2 assessments, "although the

proportions of boys and girls gaining the higher Level 5 were identical at 36%” (Ofsted, 2013). This is interesting because over this period of time science became a core subject in the National Curriculum (NC) and attainment in science continued to improve with girls achieving on average higher than their male peers (Ofsted, 2013). However, this improvement of science teaching has had little impact on the gender gap of children continuing to pursue science at a higher level (Ofsted, 2013).

Primary school is where children begin to look for role models in life and that presents us with a unique opportunity to change the gender dynamics in science (Sundorph, 2020). As teachers, we need to ensure that girls see themselves in science, and that starts with having a curriculum they can relate to (Sundorph, 2020). It was found that girls lack confidence in their STEM abilities, and with the absence of role models in these fields it is difficult for them to challenge the stereotypical views of women (OECD, 2015). The Primary Science NC contains various suggestions of scientists to focus on during the various topics. But it is interesting to note that out of the sixteen scientists named in the NC there are only three women; Mary Anning, Jane Goodall and Ruth Benerito (DfE, 2013). Indeed, a further study found that girls felt that science was boring due to the content of the subject and because they felt it was not relevant to their lives (Watts, 2014). Here we see that many girls do not enjoy the content of the science curriculum or see themselves in it and therefore do not find the subject relevant to them. One Ofsted report found that by primary school girls already had stereotypical views of jobs for men and women (Ofsted, 2011). Many schools did not teach specifically about careers to children, who subsequently when asked said that much of what they learnt at school was because they had to and not because it was relevant to their lives (Ofsted, 2011). This report was conducted ten years ago, and since then the new NC has emphasised the need to educate primary children about why they are learning topics. However, there is little evidence available to suggest that this has had a major impact on pupils’ perspective of science, and I would suggest that future science policy should focus more on the reason for science and its impact on everyday life. Until policy is changed at a national level, science subject leads and class teachers must take it upon themselves to ensure that their science curriculum is relevant to all pupils, and that may mean including women and real life examples to ensure that their female pupils are engaged and see science as relevant to them. Indeed, a quick internet search of women in science will bring up women like Caroline Herschel an astronomer who helped discover Uranus; a scientist pupil in year five could learn about her when studying space. Or year 4 pupils, learning about the environment, could learn about Rachel Carson, a conservationist who sparked the conservation movement. There are plenty of women scientists who contributed to society who can be used in the classroom to bring a topic to life and put science into context, an important strategy for the successful teaching of science (Ofsted, 2013).

But, do female STEM role models inspire girls into science? Evidence shows that it does. By exposing girls to successful female scientists, we help break the gender cycle (Breda, et al., 2021). Role models affect a pupils’ belief and can change their ideas by raising their aspirations and giving them a new outlook (Breda, et al., 2021). One study of older students in France found that classroom visits from women in STEM significantly challenged the pupils’

stereotypical views of women in science careers (Breda, et al., 2021). The study concluded that it is more important for children to know that they have equal opportunities in science and not that women are under-represented; we must improve girls' perception of science and a career in that field (Breda, et al., 2021). While this study was taken from older students, it is also relevant to Primary School's as while our pupils have time to make their career decisions, gender stereotypes and negative attitudes towards science are formed at a young age and influenced by more than just the classroom (Breda, et al., 2021).

It is not just the lack of representation and real-life application in the curriculum which repels girls from science. Society also has a large impact on the way girls see themselves and their education. Indeed, our society, fuelled by the media, reinforces the sexist message every day that 'real girls don't do science' (Baker, 2015). In addition to this, evidence shows that parents tend to have different academic aspirations for their child depending on their gender (Watts, 2014). They believe that daughters will be less interested in science compared to sons and that girls will find science more challenging than boys (Watts, 2014). This is not just an issue in England but, as a survey after the 2012 PISA assessments shows, a view held world-wide that boys belong in the STEM field (OECD, 2015). Although this gender gap was found to be slimmer in more advantaged households, it was still the commonly held view (OECD, 2015). Furthermore, girls lack female STEM role models in their households and families with the PISA results showing very few girls had a mother working in a STEM field (OECD, 2015). With this lack of role models and encouragement at school and at home it is not surprising that in all countries and economies in the world men dominate the STEM sector (OECD, 2015). Furthermore, research also found that even the teachers often show a bias towards the male pupils in the class when teaching science, further disadvantaging our female pupils (Watts, 2014). It is no surprise then that from a young age girls accept the view that they do not belong in science.

A further point of interest is the impact a teacher's training and confidence has on the teaching of science. Shortly after the NC was introduced, a survey on the teaching of science called for an increase in teachers' confidence and stated the need for in-school training to support experienced teachers (TeachFirst, 2020). This is no surprise, when 82.4% of primary school teachers are women, the majority of who have been brought up in this education system, which tells them that women are not as good at science as men (BESA, 2019). Ofsted agreed that training is key and that when teacher and science subject leads had received specific science training the standard of science education in primary schools was more likely to be outstanding (Ofsted, 2013). When looking at successful teaching of science there are several points which have been indicated to improve curiosity in science. Indeed, Ofsted highlighted that when teaching science, teachers should be imaginative and put science into context (Ofsted, 2013). This helps pupils, in particular girls to engage with the curriculum and see the relevance of the learning (Watts, 2014). A further suggestion for short term improvement to the science NC was to increase female science representation in science lessons. Teach First supported this, calling for the 2019 curriculum fund to be used to give schools easy access to

high quality material to support the teaching of the NC while also exhibiting examples of female scientists (TeachFirst, 2020).

Science as a subject has a lot to offer in terms of diversity and equality, and therefore as teachers we must include this in our teaching (Cutting & Kelly, 2014). However, with the NC Review in Science suggesting all white male autobiographies (Cutting & Kelly, 2014) and the NC itself suggesting so few women in its program of study, this presents a challenge (DfE, 2013). In science we have a tendency to categorise things by height, colour, gender and race, and while the 1999 NC instructed this to be done with 'sensitivity' that was removed in the 2014 Program of Study (Harlen, 2018). In science we tend to study differences however modern science such as the Human Genome Project has shown how identical humans are to each other. Why then do we see so much discrimination between gender and race? Due to the lack of difference between academic achievement, some have suggested that it is subtle discrimination putting girls off science and undermining their confidence (Harlen, 2018). As educational professionals we cannot let this happen and must ensure that all our students are included and can learn to the best of their ability. It has been suggested that we should teach children science through topics relevant to them (Osborne & Dillon, 2010). This was also suggested as a method to increase girls' interest in science (Watts, 2014). This poses the question; what topics are relevant to children in schools, in particular girls? (Harlen, 2018). Research studies have shown that girls are most interested in health and well-being related sciences (Harlen, 2018). But while teaching science through real life application is important, we must also remember to challenge stereotypes and to teach children about role models who challenged these themselves (Harlen, 2018).

The United Nations sustainable development goals set the target of eliminating all gender disparities in education by 2030, they also emphasised the need to empower all women and girls to ensure a balanced future (Harlen, 2018). And there is hope for the future, organisations like the Primary Science Teaching Trust are working hard to ensure that every school has an award winning primary science teacher to help promote science in each school and ensure every child received quality science education (PSTT, 2020). As educational professionals, we must continue to use the NC policy given to us and adapt it to ensure that the girls we teach see themselves in science, ensuring that all pupils remain curious about science.

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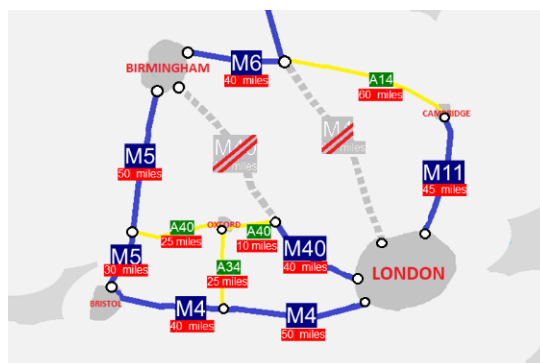
Involving everyday machines in computing education

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To my way of thinking, if we use everyday examples that pupils may see in the hustle and bustle of their life, the intended learning topic would be easier for students to understand.

I am quite obsessed with transportation and how things work in that area. When it comes to creativity I always think of my interests and how I could involve them in education. I reckon it is a nice topic to use when we are planning our classroom activities.

Google Maps has taken over GPS devices, and it is an application which is widely used, and pupils may be familiar with. I have created an unplugged classroom activity which can help students to gain insight into how computers calculate the route in navigation applications, considering real-time traffic data. I have built up a scenario where a person would like to travel from Birmingham to London, however unexpected things have happened on the road, so the students need to calculate alternative routes based on distance and travel time. I think this classroom activity could easily help pupils to understand how computers think.



As I am an obsessive motorist, I would have liked to use a machine that pupils may be familiar with. I thought speed cameras were good examples, because everybody certainly has seen those yellow boxes spread out on the roads of Britain. I researched how these machines work, and I built one using C language and a Freenove RFID. I used cardboard and some paint to build the shell of the device. Inside the box there is a distance sensor and some LED lights. In this activity I provide a worksheet that describes step by step how to get that speed camera work. The sensor inside the box takes distance data every second and calculates the speed. If the speed exceeds a certain value, the camera flashes twice, as real speed cameras do.

I think it is a comprehensive exercise which covers loops, functions and if statements, so pupils who have already learnt these topics can do this activity as revision. I believe it can be an interesting activity for pupils especially for those who are interested in engineering.