## CONTENTS

**INTRODUCTION**  
4  
The Enquiring Teachers Programme  
Paul Bridges, Assistant Head (Research and Development), RGS  
Gareth Mills, Head of Enquiring Schools, NFER  
Mary Van de Heijden, Enquiring Schools  
Facilitator and coach, NFER

**TEACHING TEACHERS TO TEACH**  
6  
An enquiry by Siobhan Alderson, Head of Psychology  
Head of Teacher Training at St John’s Leatherhead

**DON’T WORRY, BE APP-Y**  
8  
An enquiry by Sophie Blair (Head of Fifth Form) and  
Sarah Besly-Quick (Head of Lower Sixth Form) at RGS Guildford

**HOW DO YOU REVISE MATHEMATICS?**  
13  
An enquiry by Stephen Blatch Director of Academic Data and  
Teacher of Mathematics at St John’s Leatherhead

**TALK TO LEARN**  
15  
An enquiry by Sarah Booth and Emma Heaton  
Teachers at Boxgrove Primary School

**ALL FOR SCHOLARSHIP, AND SCHOLARSHIP FOR ALL**  
19  
An enquiry by Christopher Bradford  
Master of Scholars, RGS Guildford

**THE ORDER OF THINGS**  
22  
An enquiry by Daniel Jackson  
Teacher of Mathematics at George Abbot School

**MADE TO MEASURE - MANIPULATIVES IN THE CLASSROOM**  
25  
An enquiry by Danielle Elson, Rebecca Kelly and  
Christine Robinson Maths Leaders  
at Boxgrove Primary School

**A PLACE FOR DIRECT INSTRUCTION?**  
30  
An enquiry by Gemma May  
Head of English at George Abbot School

**SOCIAL MEDIA, MENTAL HEALTH AND RELATIONSHIPS IN THE CLASSROOM**  
34  
An enquiry by Rebecca Guncill  
Assistant Pastoral Lead at George Abbot School

**A BRIEF COACH JOURNEY**  
40  
An enquiry by Tom Shimell, Assistant Head  
and Garth Williams, Deputy Head, at RGS Guildford
Introduction

The Enquiring Teachers Programme (ETP) grew significantly in 2017 and the enquiries presented here represent the work of teachers from a wide range of schools, both state and private, primary and secondary. Equally broad are the range of themes covered with enquiries into teaching and learning practice, strategies aimed at supporting a child’s mental health and behaviour management tools. One thing which links them all is the sense of professionalism, expertise and a passion for learning which everyone who has contributed so inspiringly displays. In our modern age opinion is accessible to anyone who ventures online but thoughtful, considered and contextual enquiry is in much shorter supply and I am grateful to all those who have spent so long considering, testing and sharing their findings. The enquiries in the pages that follow will impact on hundreds of children over the coming years and ripples of those interventions will last for generations. In turn what has been learned and shared will go on to inform our colleagues throughout our schools and shape more lives. This is something which all enquiring teachers can be proud and is a fantastic example of how skilled teachers can change the educational landscape themselves.

The spirit of the ETP is one of collaboration and partnership between professional educators and it was extremely rewarding to be able to learn from colleagues across such a wide range of backgrounds. What started in a single school has become many, and the shared goal of helping our students achieve their potential has linked primary and secondary, state and independent. Significant thanks should go to all those who have helped facilitate the process, from Mary van der Heijden and Gareth Mills at the NFER to Tom Shimell, Andrew Roach and Siobhan Alderson who have organised and supported the teachers throughout their enquiries (and even done some themselves). Finally, without the support of the Guildford Education Partnership and the goodwill of the schools involved (Boxgrove Primary, RGS Guildford, St John’s Leatherhead and George Abbot) who support the programme we would not be able to run the enquiries.

As we enter the third year of the programme the impact of what has gone before is becoming clear, with significant developments in a number of schools who have taken what their teachers have found to improve outcomes for students. That this has been achieved through the skill and endeavour of those teachers who work closely with their students is especially rewarding, showing a different way to develop schools, from the classroom up rather than the policy down.

Paul Bridges, Assistant Head (Research and Development), RGS Guildford.
Lifelong Learners

In great schools, everyone is a learner. This includes teachers and leaders, as well as students. Great schools are constantly looking at ways to develop.

One of the welcome trends in recent years has been the increasing interest in evidence-informed education and the practical ways that some schools are using research to bring about benefits to students.

Reading about research, however, is not enough. One has to put evidence into action and this is what a cohort of teachers from GEP have been doing this year. They have been using an approach that allows them to explore, in a robust and disciplined way, how evidence of what works might be applied in their classrooms.

We know that professional learning works best when it is sustained over time, involves collaborative enquiry and builds upon a strong evidence-base of what works. This year it has been an absolute pleasure to be working with teachers from GEP and supporting them with their own enquiries as they, like their students, seek to be great learners. I hope you enjoy their stories.

Gareth Mills
Head of Enquiring Schools
National Foundation for Educational Research

Coaching at RGS

It is well known that coaching has an impact on an individual’s thinking and professional growth. Consequently, coaching has been an important element in the Enquiring Schools project.

During the year each teacher in the project has participated in coaching conversations, deepening their understanding of the research evidence and how it might be appropriate to their particular enquiry. Different research techniques have also been examined to ensure that it has been possible to capture credible evidence of impact.

Coaching can only be successful if the person being coached is open-minded and rigorous in their preparation and analysis. During the year I was delighted to participate in a series of thoughtful and professional conversations with the GEP team and I look forward to working with GEP staff again next year.

Mary Van de Heijden
Enquiring Schools facilitator and coach
National Foundation for Educational Research
Teaching Teachers to Teach

An enquiry by Siobhan Alderson, Head of Psychology and Head of Teacher Training at St John’s School.

Every year we provide training to unqualified teaching staff, but how can we increase the effectiveness of initial training at this key point?

The opportunity

At St. John’s School, we currently employ a large number of trainee teachers. In the 2016 summer term a training programme was designed by the Director of Teaching and Learning and the ITT Co-ordinator to cater for all trainees. Training sessions have taken place fortnightly during lunchtime and have been compulsory for all trainee teachers, apart from NQTs. NQTs are required to attend three full training days throughout the year; these take place at St John’s and are organised by the ITT co-ordinator. By revising and improving our training programme over the forthcoming year, we hope to better prepare our trainee teachers as we believe this will lead to improved teaching and learning outcomes in our classrooms. We believe this will lead to improved teaching and learning outcomes in our classrooms.

My hypothesis

Firstly, I set out to engage with literature surrounding best practice in teacher training and CPD. The model proposed by Guskey\(^1\) for evaluating impact seemed a good starting point. This suggests that when evaluating effectiveness we should take into account:

- Participant reaction
- Participant learning
- Participant use of new knowledge and skills
- Pupil learning outcomes
- Organisational support and change

I therefore moulded my data collection somewhat in line with these indicators. I predicted that teachers at the early stages of their career would find benefit from ‘one-off’ teacher training sessions, for example listening to a guest speaker, as long as the key learning points were developed through mentor meetings, observation and discussion. I therefore set out to look for a correlation between these key areas; the intended outcomes of attended training sessions, with a positive participant reaction, leading to the use new knowledge and skills and, ultimately, improved learning outcomes. This line of thinking diverged from findings in other research studies. For example, an article published in professional development in education by Lydon & King\(^2\) concluded that short CPD episodes are unlikely to be effective.

The action/intervention

The data collection centred around structures that have been put in place within school for teachers in their first three years of development. The main action points were:

- To create evaluation forms which will be used to evaluate the impact of one-off training sessions: specifically, sessions on behaviour management, the use of data to inform planning and teaching, differentiation and assessment for learning strategies;
- To observe trainee teachers after one-off training sessions and look for progress in relation to specific CPD (i.e. if the new ideas are being implemented clearly);
- To analyse lesson feedback from other observers (i.e. mentors);
- To draw conclusions on the effectiveness of one-off training sessions and, hopefully, provide evidence of causal conclusions.

The evidence of CPD impact/ main findings

A large amount of qualitative and quantitative data was gathered during the process, I have picked out some key points from the findings concerning unqualified teachers and newly qualified teachers.

Unqualified teachers:

Fig. 1 shows what trainees believed to be their most important needs at the beginning of their teaching career (First terms within first year):

![Fig. 1: Unqualified teachers’ perceived needs in their first term of teaching](image)
Evidently, behaviour management and subject knowledge were two major concerns for staff at the beginning of their training. Trainees attended an external session focused on body language and behaviour management in the classroom in the Autumn term. After this, lesson observations and mentor meeting forms were checked for evidence of improved practice.

Specific evidence was found in 66% of the paperwork suggesting that implementation was possible after a ‘one-off’ CPD session. For example, one trainee reflected on:

“My awareness of my habits in the classroom has led to me changing the way that I stand when explaining to the whole class. I have also worked on varying my tone of voice.”

Differentiation was an area which was found to be an area of concern particularly in first year trainees, but also with NQTs. Although there was evidence of a positive response to differentiation training (from evaluation forms after the second NQT day and after George Abbot SCITT training), it appears there is a problem with applying new knowledge in the classroom. This was reflected in a survey where first year teachers consistently stated that differentiation was still a concern. This suggests that some areas of knowledge need to be revisited more frequently. This will be a priority for the next year.

**Pupil learning outcomes:**

The improvements in pupil outcomes were assessed through pupil voice feedback. It was difficult to find clear-cut evidence of the impact of specific CPD sessions on the outcomes of learning in a quantitative sense. Nevertheless, the overall percentage of pupils who felt they ‘knew how to improve’ and had ‘confidence in their teacher’ increased from the beginning to end of the year. This was as expected (based on pupil voice feedback from the unqualified teachers). This is a measure that would need to be reviewed again next year.

**Reflection on learning**

A number of unexpected learning gains were achieved during this process. There were clear correlations between the areas that trainees thought to be least important at the start of the year, and where opportunities to improve teaching were found. It is difficult to create a training programme which encompasses all needs, but the following are some of the objective steps that will be implemented as a result.

This research allowed a ‘before and after’ insight to perceived training needs and the impact of training sessions. It has led to a clear idea of how to improve and structure training programmes going forward. Specifically, training programmes for unqualified teachers will incorporate subject knowledge enhancement on top of pedagogical training sessions as well as the sessions on planning, behaviour management, use of data and so on.

In future, NQTs and RQTs will be asked to become involved in coaching and mentoring of those in similar subjects who are at the very beginning of their teaching careers. The ITT co-ordinator will train mentors in the use of differentiation and AfL strategies and liaise with the learning development department in order to give out a consistent training message which can be easily revisited.

The ITT co-ordinator would also like to explore opportunities for amalgamating training opportunities for trainees from the same subject disciplines across local schools who are not on an external training programme (e.g. PGCE). This would allow more peer feedback and the development of ideas.

**References**

1. **Guskey,** (2000)
2. **Lydon & King,** (2009)
Don’t worry, be app-y

An enquiry by Sophie Blair (Head of Fifth Form) and Sarah Besly-Quick (Head of Lower Sixth Form) at RGS Guildford

A continued investigation into the benefits of Mindfulness and Yoga practice for providing pupils with strategies to manage stress and anxiety.

Context

Promoting good mental health amongst pupils remains one of the greatest challenges faced by schools today. Around one in ten people between the ages of five and fifteen have a diagnosable mental health disorder\(^1\), and the Government’s 2014 guidance document ‘Mental Health and Behaviour in Schools’ states that “schools have a role to play in supporting [pupils] to be resilient and mentally healthy”\(^2\).

In particular, we are concerned about the susceptibility of our pupils to anxiety and stress, given the high-achieving environment of the RGS, and the high expectations often placed upon pupils by parents, teachers and, crucially, themselves. Whilst anxiety to some degree is a natural and helpful physiological response, it has been estimated that one in six people in Great Britain will suffer from a more severe and obstructive anxiety disorder, which may interfere with school, work and relationships\(^3\). We were eager to identify means of providing pupils with strategies to help them identify and manage their stress and anxiety to avoid these reaching detrimental levels.

Our research began in 2015 with a preliminary enquiry into the effectiveness of yoga and mindfulness practice for managing stress and anxiety amongst Fourth Form (Year 10) pupils. Our findings suggested firstly that both approaches were worthy of further investigation; boys spoke of finding both practices relaxing and useful in that they encouraged them to examine their emotions and what might be triggering them. Secondly, there was clear demand for further intervention, with yoga particularly popular; 95% of participants said they would benefit from further sessions, and the feedback we received from parents was overwhelmingly positive; 40% of those surveyed identified a positive change in the general behaviour of their sons.

Interventions

Yoga

Since the yoga programme we introduced last year was already extremely popular in its existing format, delivered weekly by Kate Morsley during tutor time before school, we decided to roll this out to all Fourth Form pupils with little change; the only significant difference was that the programme was rebranded ‘Breathing and Stretching Exercises’ to emphasise the entirely secular nature of the activity and disassociate from any religious practices which could be seen to conflict with the ethos of the school. All tutor groups participated in three sessions on consecutive Tuesdays, on a carousel basis. Whilst this was fewer sessions than we would ideally have liked, it was the only way to ensure that all groups could participate. In addition, all Fifth Form tutor groups had one top-up session in PSHME before the mock exams, to remind them of the relaxation strategies introduced last year.

Mindfulness

Our mindfulness provision required more consideration; last year’s pilot group had shown more modest engagement, with 22% saying they would find further sessions beneficial. Both pupil interviews and our own observations of the sessions suggested that peer pressure was playing a part, and for this reason we decided to repeat our trial with younger students in Second Form (Year 8) and using three different providers to see if this affected attitudes. We had both attended introductory training for the well-
regarded Mindfulness in Schools course and felt their carefully-planned and interactive sessions would appeal more to our pupils. So we engaged local instructor and child psychologist Dr Bill Young to deliver the programme to one tutor group; we felt his flexibility and background would chime well with our school requirements and ethos.

We also wanted to find out whether the use of mindfulness apps would be more appealing to pupils and encourage them to practise more regularly in their own time, since existing research suggests this is a key factor in the effectiveness of mindfulness, as well as proving more cost-effective than an external teacher. We chose to trial Headspace and Stop, Breathe, Think with one tutor group each; these both offered free, intuitive programmes, widely accessible via a range of devices, which had a strong public perception and established participation in academic research. This left one tutor group as a control who did not receive specific intervention.

Each group completed eight sessions of their programmes between November 2016 and February 2017.

Data Collection

Yoga

As with last year’s pilot, we asked all Fourth Form pupils participating in the yoga sessions to complete an anonymous online survey shortly after completing their three sessions. Of the 87 pupils who replied:

- 67.4% said they felt more sessions would be beneficial for them;
- 44% said they would use the techniques on their own;
- 43% said they felt relaxed by the sessions;
- 44% said their opinion of yoga changed, all positively.

We also asked their parents to complete an online survey about the trial in June 2017, when all groups had taken part. Of the thirteen who replied, 77% said their children had discussed the sessions with them. Parental feedback included the following comments:

- “He seemed more able to acknowledge how nervous he feels at the beginning of an exam and that there may be steps he can take to manage that”.
- “He is more willing to say if he is annoyed by something.”
- “He found them very relaxing and helpful with exam stress.”
- “He said they were "quite good". Just to be clear this is high praise - almost everything else in life is "lame".”
- “He talked about how much he enjoyed them. We also compared what he had done to what I do in Pilates class. He said they relaxed him and that they were a good way to start the day.”

Over 69% of parents who responded said they would strongly like their son to continue with yoga sessions in Fifth Form, with explanations including:

- “He clearly enjoyed and benefited from them. I think regular attendance at these sessions would help him prepare for GCSEs.”
- “These are important techniques for managing stress etc. in future. Although you didn’t ask, my son practised the exercises at home and told me he was doing it!”

To assess the longer-term impact of the original pilot sessions, we asked last year’s pilot and control groups to again complete the Perceived Stress Scale Questionnaire (which they had done before and after last year’s interventions) in March, following their top-up yoga sessions and between their mock and real GCSE exams. Interestingly, although both groups’ average self-evaluation of their stress levels dropped after the intervention period last year, by March 2017 the control group’s average had risen to above its initial level, whereas the pilot group’s level had risen less, and remained below their original level.
Responses to a request for further feedback from pupils and parents in the pilot group in June this year were unfortunately very low, but all those received were very positive, including two unsolicited requests from pupils in other tutor groups requesting further yoga sessions.

**Mindfulness**

Each Second Form tutor group was asked to complete a brief survey identifying whether they felt they had learnt anything in school which would help them to manage stress and anxiety, and what strategies they currently had to deal with these issues. These were completed in October 2016 and March 2017, shortly before and after their mindfulness programmes, to allow comparison. Interesting findings included:

- Most pupils in all tutor groups cited a wide range of self-developed strategies even before the interventions, including exercise, talking to people close to them and sleeping.
- However, one of the most frequently-cited strategies was TV, video games and phone usage, especially amongst the control group. This dropped significantly amongst the intervention groups in the March 2017 responses.
- After the interventions, fifteen pupils from the group who received mindfulness training cited mindfulness as a school-learnt strategy (all but one of these references were positive). Twelve (half of the group) said they actually used mindfulness to alleviate stress and anxiety. There was a far wider range of coping strategies listed than in their October 2016 survey, including many which had featured in their .b sessions.
- After the interventions, five pupils in the Stop, Breathe, Think group referred to mindfulness as a school-learnt strategy, and all of these said they used it independently. Whilst uptake was fairly low, those who did take to it appeared to find the app useful.
- Amongst the control group, although they had not received a focused intervention, 11 referred to being introduced to the concept of mindfulness in an RS lesson, though only one was able to use it successfully. This suggested that they were receptive to the concept but needed further guidance.
- The control group made very little reference to any other school-learnt strategies – no strategy was mentioned by more than 3 pupils.
- In the October 2016 survey, many mentioned reducing screen-time as a strategy (this was immediately after they had heard from an external speaker on this), but by March 2017, few mentioned it, suggesting that messages needed regular or extended embedding to have a longer-term impact.

All pupils also completed an anonymous online attitudinal survey shortly after their programmes to assess their engagement with and enjoyment of the different approaches. Amongst the headline responses, the following are worthy of comparison:

**.b group**

**Are there any techniques you learnt that you would repeat on your own?**

10 responses

- 37.9% Yes
- 62.1% No

**Do you think more sessions would be beneficial to you in the future?**

16 responses

- 43.9% Yes
- 56.1% No

**Headspace group:**

**Are there any techniques you learnt that you would repeat on your own?**

24 responses

- 70.8% Yes
- 29.2% No

**Do you think using Headspace would be beneficial to you in the future?**

24 responses

- 50.0% Yes
- 50.0% No
Stop, Breathe, Think group

Are there any techniques you learnt that you would repeat on your own?
11 responses

Do you think using Stop, Think, Breathe would be beneficial to you in the future?
11 responses

Clearly the sessions delivered by a trained teacher rather than through an app were significantly better-received and pupils were more able to see their longer-term benefit. In addition:

- 50% of pupils in the .b group said they felt relaxed afterwards, and 40% in the Headspace group. Feedback from the Stop, Breathe, Think group was less positive.

We selected specific pupils to monitor from each tutor group based on their earlier survey responses, representing a range of abilities to manage stress and anxiety. Tutors and parents of these pupils were asked for their observations in October 2016 and March 2017 as to whether there was any change in these pupils’ ability to manage stress before and after the interventions.

- Tutor responses to our survey were limited, but all was very positive. The tutor of the .b group said “Students would benefit from the mindfulness sessions even more in the upcoming exam period during the summer term and as a transition to the Third Form, as there have been a few ‘anxiety’ issues coming up lately related to exams and friendship (with the forms being mixed up next year).”

- Parents’ comments on .b were the most positive and forthcoming, including: “Really positive - really glad that the school has taken this initiative - although I don’t think that my son feels especially stressed, any tools to help him in this respect can only help.”; “I think it is an excellent idea, and thoroughly support the school’s efforts in helping the young men understand what stress is, how it manifests itself and then educating on varied coping mechanisms.”; “Please extend this programme so that our other sons can benefit from it.”

We also trialled the Pupil Attitudes to School and Self (PASS) survey as recommended by George Abbot with all Second Form pupils, as this had been recommended to us by a partner school as a means of assessing pupil wellbeing both holistically and on an individual basis. Pupils completed this survey in November 2016 and July 2017. Two of the six focus pupils in the .b group showed improved self-regard, one in each of the app-based groups and none in the control group.

Conclusions

Yoga

Pupil and parental responses clearly suggested that there is enthusiasm for the benefits of the sessions, and that there was demand for more regular offerings. Amongst Fourth Form parents, when asked how much of a financial contribution they would be willing to make towards weekly drop-in sessions, the results were encouraging:

The significant improvement in pupil attitudes towards the sessions after their three sessions in the Fourth Form suggest that all pupils should be offered at least some trial sessions to correct any preconceptions.

Ideally these sessions for all pupils would be longer and more numerous, but unfortunately the restrictions of the school day and curriculum mean that this is not currently possible. It was noted that for both Fourth and Fifth Form, independent practice of the techniques taught was fairly limited, and the absence of a top-up session before the summer exams or GCSEs may be at least partly responsible for this.
Mindfulness

All formats of Mindfulness offered had at least some benefit to some participants, and comments amongst the control group suggested that they would be receptive to some form of intervention, even though they had not had any significant exposure to it this year. The 6-8-week length of each course seemed adequate to improve the vast majority of pupils’ opinions of Mindfulness, whilst fitting conveniently into the curriculum.

The 6b course was clearly the most popular with pupils and parents, and suggested that delivery by a specialist external instructor fostered greater long-term approval and likelihood of independent continuation by pupils.

Next steps

Yoga

- Approval has been granted by SMT for all Fourth Form pupils to continue to receive 3 introductory yoga sessions before school on a carousel basis.
- Kate Morsley has agreed to offer additional drop-in sessions for Fifth and Sixth Form pupils during the exam season during the 2017-18 academic year.
- SMT approval has been sought to offer a weekly year-round, one-hour, opt-in session before school to up to fifty Fifth and Sixth Form pupils and Sports Scholars. It is proposed that parents would be asked to contribute £4 per session, with a minimum commitment of half a term.

Mindfulness

- We hope to work with Dr Bill Young to produce a bespoke Junior School Mindfulness programme to meet the requirements and ethos of the RGS. Ideally we hope that this would take the form of a 6/8-week carousel for Second Form pupils during morning tutor time.
- Two existing members of RGS staff have offered to provide Mindfulness as an option in the Sixth Form General Studies carousel, and will be receiving formal training in how to deliver such a programme.
- We hope to investigate the possibility of these teachers providing drop-in Mindfulness sessions for all year groups from the 2018-19 academic year. It would be interesting to see how Mindfulness is received on this basis.

It is clear that both pupils and parents appreciate the school’s efforts to do something about the growing issue of pupils’ mental health, and we have been encouraged by the reception our interventions have received. We very much look forward to seeing how these will develop over the coming years.

References

2 Gov.uk. https://tinyurl.com/q7d23dz, (accessed June 2017), Mental health and behaviour in schools
3 MHFA England CIC. 2014, Mental Health First Aid for Schools and Colleges Handbook
How do you revise mathematics?

An enquiry by Stephen Blatch Director of Academic Data and Teacher of Mathematics at St John’s Leatherhead

Previously, my pupils have generally completed extra questions as a revision technique for mathematics. I wanted to see whether introducing additional techniques to review their work would help them to be able to consolidate their knowledge.

Who was involved?

I chose to use a Year 10 mathematics group where the pupils were of middle ability. Within this group there was a range of pupils who on the MidYIS test had above and below scores within the test in all four categories vocabulary, maths, skills and non-verbal reasoning. The pupils were all surveyed before and after the techniques were shown. Also surveyed were the teachers within the mathematics department about the three techniques shown to the pupils.

Reviewing the pupils MidYIS test scores allowed me to try and identify the techniques that would be introduced to the pupils. A number of the pupils had average maths and vocabulary scores but had lower skills scores. Because of this, I chose to introduce techniques such as flow diagrams and knowledge boards to group together techniques to help the pupils to build their knowledge base and to develop their skills and memory techniques.

Review techniques and evaluation

I wanted to choose some techniques that pupils were familiar with and some that they may not have known. The idea was to hopefully show the class that these techniques were not just uniquely for mathematics but could potentially be employed in the other subjects that they are studying.

Mindmaps

What is it?

This is a visual representation of information surrounding a central concept/idea.

Pupil’s Perspective:

There were mixed responses from the pupils about mind maps. Some pupils preferred mindmaps because of the visual representation and good summary that these provided. However, there were a number that stated that learning from these was challenging.

Teacher’s Perspective:

This is a technique used rarely by teachers, being predominately used to provide a good end-of-topic summary of the information taught.

Pros and Cons:

Good for grouping together related ideas but they can lack structure.

Knowledge Boards

What is it?

This is similar to a mind map but allows ideas to be grouped together in blocks which can provide more structure for those pupils who need this. It can also include definitions and examples.

Pupil’s Perspective:

The pupils really liked this technique as it allowed them to summarise all of the information relating to a single topic in a single place. They claimed that this also allowed them to learn rules relating to these.

Teacher’s Perspective:

This is a less well known revision technique amongst the teachers. However, those that have used these have found that they are good at the end of a topic as an independent technique to help summarise a topic.

Pros and Cons:

These can be used to group together other techniques, like worked examples and flow diagrams along with rules and formulae relating to the given topic.

These are very similar to mind maps; some of the pupils whilst liking these prefer the structure of a mind map.

Flow Diagrams

What is it?

A set of instructions with options when a decision needs to be made.

Pupil’s Perspective:

Amongst the group this was one of the better accepted techniques, with the pupils stating the following about their use within revision:

“It is a step by step of how to do that topic so when I come back to it I know exactly how to do those types of questions.”

“Because it is easy to revise off.”
Teacher’s Perspective:
Out of the teachers surveyed this was one of the more popular techniques used, with one of the teachers stating that they use these: “To consider the process when answering a longer question, or when determining which method to use to solve a question.”

Pros and Cons:
This is clearly a technique that is useful and can be used throughout the teaching and learning process. It lends itself well to collaborative and independent work to establish a set of instructions to help guide pupils at a later date to help them revise.

The technique was not particularly helpful if not alongside a worked example. Additionally more than one example was required to show how the decision works.

Other Techniques
The pupils also stated that other techniques which they have used to help them revise the work that they have completed included past papers/questions and flashcards.

Potential Issues:
Teachers may need to be reminded that pupils will need time to create and develop their own alternative techniques and should be guided by supportive, effective modelling before carrying such techniques out themselves.

Conclusions
A variety of techniques should be introduced to suit different pupils’ strengths and weaknesses. This could be guided by the MidYIS/Yellis information that is available for all pupils. The techniques could be chosen so that those pupils who struggle to transfer techniques from one question to another have a set of instructions/worked example to follow or those who can remember a technique but struggle to access a question could have a list of keywords with definitions to learn to enable them to be able to access a question.

There is the potential here to work with the school’s Learning Development department in order to further cascade these revision techniques across other departments. By encouraging departments to work review techniques into their schemes of work and to perhaps provide a revision techniques day, we could ensure that all pupils were taught a range of techniques throughout a course. This could also allow departments to teach them same technique but allow the pupils to see how they are employed in a different fashion to support those subjects. This could also allow them to become more independent and flexible within their own studying and reviewing of their own work.

Next steps
Ideally from this I would like to take this from a single class and scale it up to a whole year group, potentially Year 10, where the techniques are introduced from the start of an academic year and are shown to all of the pupils. Before this begins it would be worthwhile reviewing all of the MidYIS data and clearly identifying up to four different techniques that would be able to support all of the pupils. To employ a strategy like this would require showing all of the teachers involved the different techniques and ensuring that time is allocated within the scheme of work for the teaching of this.

In addition to showing these techniques to the pupils in a mathematics context, it would be worth letting the pupils remember that these can be transferred and used, in other subjects. When reviewing these with the class that I used, a number of these techniques have already been used by the pupils in other subjects, primarily in humanities subjects.

This will then also have given them something to refer to when revising and completing homework.
Talk to Learn

An enquiry by Sarah Booth and Emma Heaton, class teachers at Boxgrove Primary School.

We used the premise of child centred and focused scaffolding through talk and investigated the impact this has on verbal communication for those children for whom English is an additional language.

Child-centred

One of the greatest barriers for EAL learners is grammar and word use in their verbal communication, which in turn can impact on their access to the whole curriculum and can negatively affect their social and emotional well-being as they progress through school.

Rather than present the children with a typical programme of study, we wanted to take an individual’s perspective. We decided to keep our test sample very small, just two children. This was partly due to time constraints, but also with respect to being able to zone in on word use in fine detail.

Success Criteria

To prove the success of the research, we wanted to see an increase in the confidence of the children. We wanted to be able to hear children use language with the correct meaning in the correct context. Perhaps most significantly though we wanted the children to feel success in their communication attempts and for them to be able to access the curriculum with ease.

We had in our minds Lev Vygotsky’s Theory of Learning where Carol Read, Specialist in Primary English Language Teaching, states that “For Vygotsky, the child develops cognition and language as the result of social interaction with more knowledgeable others in activities which have specific goals. As a result of the child’s participation and the interactive, verbal give-and-take with a more skilled or knowledgeable person in the undertaking of everyday problem-solving and tasks, external, socially-mediated dialogue is gradually internalised and becomes an inner, personalised resource for the child’s own thinking. At first the adult or carer has all the language and cognition necessary to be able to perform a task and guides the child through relevant behaviour until he is able to perform the task independently and successfully. Through modelling behaviour and language, and familiarising the child with the processes and procedures involved, the adult leads the child to being able to act competently and confidently on his own.”

I Spy

The children in our enquiry were presented with illustrations that contained lots of detail and they were encouraged to look at each one carefully so that they could talk about it. We asked the children to say what they could see. First of all, they were shown a picture of a school classroom. The following is a transcript of their conversation.

GC There’s a dog behind the boy is reading. I got a knight book at home.

BC He makes a snail from made of playdough.

GC I see a rubbish bin.

BC Here’s some drawings. Someone with the yellow jumper’s drawing. I see a frog with a crown. Here’s a toy dinosaur.

GC Where? Oh here. I see some plants.

BC Over there.

GC These are not plants. These are paintbrushes. This lady’s reading a book.

GC There’s a toy lion. I see cat’s chair. Over here.

**The Scaffolding**

When the children had finished the first session, we looked at their speech in detail, so that by the second session we had a clear focus as to which misconception we wished to address. The children were asked to describe the first picture: what they could see. In the second session, they were given a more abstract idea of describing what they could see at home. They were introduced to the phrases ‘I have and I make.’ They, very clearly, (as shown in the following transcript) followed the model given, as they described all the things that were familiar to them.

CT (Class teacher)

There’s a book with a mushroom on it. There’s a book with a flower on it.

BC There’s a book with a crocodile.

CT I have a cupboard to put my clothes in.

GC I got one lunch table.

BC I have some water. I have got a knight book. I have toys.

GC I have a cupboards to put my clothes in.

BC I have got a bed.

GC I have two tables upstairs of my house.

CT He makes a snail out of playdough.

GC I make a snail out of plastic.

BC I make a pie out of playdough.

GC I make a presents out of playdough.

**Putting it into Practice**

The third session each week, as transcribed below, was to let them once again look carefully at the picture and to talk freely about what they could see or what was happening in the picture. This gave us an opportunity to assess whether their sentence construction had improved.

GC I can see a girl making a man.

BC I see a boy looking at d… erm… pictures… with glasses… and he looks at the picture.

GC I see a girl looking out the window.

BC I see a girl reading a book wid a tree inside a page… drawing.

GC I see a boy looking at lion book.

CT What is happening in the picture?

BC The children one of them is taking books. And some of them are drawing.

GC There’s a dog behind a boy. There’s cat chairs and bear chairs. I can see a bin. I can still see a toy lion.

During some of these sessions, there was evidence of more organisation to their speech and the sentences were more carefully constructed.

Carol Read goes on to say, “The area in which the child can perform an action or task, provided that a more skilled or knowledgeable person is available to help, Vygotsky termed the ‘zone of proximal development’ (ZPD). This he defined as ‘the distance between the actual developmental level as determined by independent problem-solving and the level of potential development as determined through problem-solving under adult guidance or in collaboration with more capable peers.” (Vygotsky 1978, p76).

As the weeks progressed the children showed more and more signs of improvement in their use of, and increasingly their understanding of English language. Having had the scaffolding, they were starting to show signs of independence. The Hospital below proved particularly interesting and at times a little amusing.

![The Hospital - stimulus picture](image)
The transcript following the introduction of the hospital picture shows that the children are already applying the ‘I can and I see’ patterns of language as modelled to them in a previous session some weeks ago.

GC I can see a girl using a bandage on a bear.
BC I see a boy hiding, looking at a boy and a girl, which the boy has to look at the girl carefully with his eyes.
GC I can see a slipper, two slippers. Can’t you see it. That is.
BC I see a mum changing her baby’s pants. I see some fruit wid tissue paper and bananas and a bowling balls.
GC A boy is pushing a girl in the wheelchair.
BC I see a girl making a puzzle.
GC I can see a blue book on a blue bed.
BC I see a boy drawing wid yellow, pink, green.
GC A little boy is putting his fingers and thumb like that and a boy is looking at him.
BC I see a mum wid a boy looking at a book.
GC A lady got a spoon in her hand and she’s giving a medicine on a boy. I can see a wheelchair with someone in it.
BC I see a computer and someone is working on it with glasses.
GC I can see a girl, boy on a bed. (own emphasis)
BC I see a picture of a thumb…and he broken his finger…thumb.
GC I can see a panda lying on a red box with toys in it.
BC I see a blue and red coat on a light blue bed.

In Session 2 we modelled how to use words to identify the place of an object: There it is. GC found this really tricky but what you don’t see in these transcripts is the amount of laughter from the children. They both really enjoyed the challenge and that enjoyment is integral to the success of the scaffolding process.

GC There’t is.
CT There it is.

In the transcript above you will see that GC is not only using the English language correctly: ‘there it is’; but that she is beginning to understand it too, when she questions whether “There it are …Right?” was indeed correct. Then the next time she uses the phrase she does so correctly. The following is a transcript of the third session using the hospital picture as the stimulus material.

GC I can see a pink dog. You just pointed it.
BC I see glue.
GC I can see some cards.
BC There they are.
GC That’s not bubbles.
BC It’s by d’ baby.
BC There they are… (thinks) cos they’re three. I see a tiny, tiny pastels which you draw with.
GC These? These? These? There they are.

I Can

In Session 2 we modelled how to use words to identify the place of an object: There it is. GC found this really tricky but what you don’t see in these transcripts is the amount of laughter from the children. They both really enjoyed the challenge and that enjoyment is integral to the success of the scaffolding process.

GC There tis.
CT There. it. is. (I modelled slowly, touching finger on each respective word.)
GC There it is.
BC There it is. (very slowly and clearly enunciated). I can see a orange.
GC There tis.
CT There it is.
GC There it is.
BC There it is. I see a ducky in that picture.
GC Don’t help me this time. There it is. (very clear). I can see a duck as well.
BC There it is. I see books. (GC could not see them) Do you want now help?
GC There it is.
CT There they are.
GC I can see bubbles.
BC That’s not bubbles.
GC It’s by d’ baby.
BC There they are… (thinks) cos they’re three. I see a tiny, tiny pastels which you draw with.
GC These? These? These? There they are.

BC I can see people.
GC There they are. I can see a duck. There’s two ducks. One duck there. And one duck there.

BC There he is. I see a checklist.

GC There it is. I can see a apple.

BC There it is.

CT I can see books.

BC (and GC) There it is.

GC There it are… Right?

CT There they are. I see toys.

BC There they are.

GC There they are.

Changes

We have seen positive change on the playground in that we have observed that BC has engaged in less physical play, whereas beforehand this was becoming a problem as he relied very much on rough play or fighting to negotiate and communicate with his peers. This change could be because BC has a better understanding of language and how to use it with his peers. However, we have to also consider the impact of the relationship between the tester and the individuals being tested. Three times a week the children met with us and had 1-2 individual attention. This in itself will have made them feel more valued and may also have acted as a catalyst to their raised level of confidence. Participation in class has increased. Could this be because the children have more confidence that what they say is going to be understood?

Conclusions

The children thoroughly enjoyed the sessions. We noted that they listened intently to each other. They showed motivation, enthusiasm and focused observation. There have been noticeable improvements in terms of more organised sentence structures, which is also becoming more evident in some of their writing, especially GC’s. After a scaffolding session on ‘Using Some to Describe Plurals’ she wrote the following: “She found some glue and pens but she can’t found some pencils.” She correctly recognised the plurality of pencils, so used ‘some.’ On another day, we can tackle how a negative affects a word or group of words. But ‘couldn’t find any’ will be a new challenge for another occasion. One of the most significant outcomes of this enquiry is that both children have experienced a surge in confidence and as a result their self-esteem has been nurtured.

Next steps

When looking at next steps, the intention is to focus specifically on speech in the Autumn Term and from January onwards to look at in more detail their written language errors and think of ways to use scaffolding to correct their individual, but common misconceptions. If the next group of children are as enthusiastic as BC and GC, and can celebrate a boost in their confidence as these children did, not only will it pave the way to a more structured learning approach... it will lead to better communication and happier children.

References

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All for Scholarship, and Scholarship for all

An enquiry by Christopher Bradford, Master of Scholars, RGS Guildford

“What is the effect on our students’ opportunities of labelling some as ‘Scholars’ and others as not?”

Summary

What began as a review of the internal scholarship programme at the Royal Grammar School Guildford (RGS) grew into a review of what it means to be a scholar in the abstract, and how the use of that term affects the educational landscape of an institution. After peer and student reflection on the topic, it became clear that the current programme was neither aspirational nor transformational for the RGS Scholars, the non-Scholars, or the School as a whole. From consultation and further discussion, it became clear that a truly inclusive programme of scholarship required the correct ambassadors of trait to be identified and exalted as a demonstration of this best practice, whilst simultaneously creating a space in which the many and varied gifts of all boys could be encouraged to flourish in the truest sense of scholarship. This brief report contains the main findings, details of what has been inculcated to date, and moving forward, what the recommendations are to create, implement and sustain such a programme of Scholarship for all.

Initial Consultation and Preliminary Evidence

This enquiry project hinged on the staff and students’ perceptions of the existing scholarship programme. To gauge these perceptions both groups were asked to complete a simple online questionnaire. The wording of which was carefully chosen, with the aid of an outside professional, to be unbiased in tone and unassuming of conviction. This was important as it enabled the creation of a body of responses which were both unbiased and representative of the entire school community. Criticality and a robust methodology was always considered a priority and as such every effort to achieve this in both surveys and in further questioning was undertaken.

A summary of the most important results is presented in Fig. 2 and 3. It should be noted that the School’s teaching population is approx. 100, and 33 responded. The student body is approx. 930 and 607 responded, so this is undisputedly an issue that affects and concerns the student body.

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Fig. 1: Screen shot of Questionnaire’s summary

Fig. 2: Response from Google Forms

Fig. 3: Wordle created from the collective responses from students to the question ‘What makes a Scholar stand out in lessons?’

The following discussion is then predicated upon and representative of the qualitative data collected.
What is Scholarship and who are the ‘Scholars’?

The idea and perception of the habit of Scholarship is clearly important to the students, but current Scholars, on the whole, did not always embody it, nor did they stand out as their peers expected them to.

Research method

I convened a council of senior Scholars to help develop my understanding of their perception of Scholars and scholarship at the school. We discussed their experience of the Scholars Programme and the reasons for the apparent disconnect between what our Scholars actually do and what we thought scholars should do became apparent.

Findings

Whilst the method of identifying the scholars at 13+ was comprehensive, robust and accurate, it was deemed to be none of these at 11+. The casual effect of this (and this anecdotal evidence was found to be borne out in the internal progress data) was that further into their time at school the 11+ Scholars were, more often than not, not the best, brightest or the most scholarly (the meaning of which we will visit later). This had the most unintended and potentially damaging of effects. It became apparent that because our process for the identification of scholars was ineffective the wrong children were being given access to the programme.

Another finding was that the Scholars Programme was disincentivising ‘scholarship’ in the eyes of the student population. The programme lacked its truest ambassadors: the true scholars were not rewarded nor was their best practice exalted. This resulted in what the students described as an ‘insular programme for those who merely tested well at 11’ – this is both a direct quotation from the survey data and representative of data sets general sentiment. As such the Scholars Programme lacked ambition, but more than that it seemed to anger the students. There was real, and arguably justifiable, resentment to those who continued to be labelled as Scholars but who were, mostly by no fault of their own, no longer the highest achieving, most scholarly individuals within the school.

Conclusion

A hierarchical structure designed to promote scholarship can only work if those who sit at its apex are the very best practitioners. The trickle-down theory of learning through observation of best practice only works, practically and emotionally, if those who carry out the very best practice are those whose work is exhibited and if they receive just praise and reward for it. This was not the case, and so, in my opinion, the very design of the programme was flawed, and trust in it was broken. I have sought to rectify this.

Extending the research

Up until this point my enquiry had been using a generic definition of scholarship, not one of use within the context of the RGS (where every student from entry is deemed to be gifted and talented). There was no such agreed definition of scholarship within our special context and I therefore set out to try and agree one via staff consultation and use of the initial survey data on the question.

Questions being asked

On my behalf, the following questions were asked by Line Managers at a HOD’s meeting:

1. As a school what is our philosophy on Scholars and Scholarship?
2. Is the concept of an Academic Scholar too broad?
3. Do we have the correct mechanism in place to identify and monitor Scholars?
4. What would be the desired elements of an aspirational Scholars Programme?

Findings

The results from which were used in conjunction with the staff and student data, to form our definition of scholarship:

A Scholar at the Royal Grammar School Guildford is not simply gifted and talented, every pupil at our school is. A Scholar should be more than that. They should be fiercely curious and intellectually inquisitive. They should be both mentally resilient and malleable; able to identify and offer creative solutions to the toughest of problems. They should be ambassadors of excellence. They should engage fully with the opportunities afforded to them. They should be young men of great integrity; taking pride in their achievements whilst always remaining humble. They should enrich the educational landscape from which they have benefited. Put very simply, they should embody the very best of us in every way.

Consequences

This redefinition caused a wholesale shift in the direction and purpose of our Scholars Programme. It created a move from a scholarship programme to a programme for scholarship, Scholarship for all if you will: a programme designed to promote, exhibit, and instil scholarship throughout the student body.
teach scholarship as a mindset that can be learnt, but more than that, one that we could and should all be aspiring to acquire, staff and student alike. It is worth mentioning that this has been a difficult and time consuming process, and one that is still ongoing.

(This notion of withdrawing a glass ceiling created by mislabelling scholars, an aspirational and academic segregation if you will, plays into the notions of neuroplasticity and growth mindset.)

Looking ahead

The essence of our new programme for scholarship was to be inclusive and aspirational. As such, I was determined to create a more specific, super-curricular programme, access to which is to be subject to aptitude and attitude, and invitational by individual subject teachers. This rectifies the students’ concerns of wrongly rewarding certain individuals, and allows the best, irrespective of title, access to scholarship enrichment opportunities. In so doing, this then allows many more boys with aptitudes in specific subjects access to enrichment and challenge within that particular subject. With scholarship being intimately linked to very specific knowledge and ability in a singular or group of disciplines, this felt a far more principled and meritocratic programme for scholarship.

In order to encourage scholarship and exhibit best practice throughout the school in the hope that acquisition of the attitude might become contagious, a myriad of competitions was to be set up, and an annual compendium of exemplary works of scholarship, The Scholars’ Annual, was to be published.

After an audit of existing practices, it became abundantly clear that the provision and infrastructure was already present both internally and externally for scholarship in the Sixth Form, but was severely lacking in the Lower and Middle School.

After this initial identification in the twilight of the Lent term, our Director of Studies and I set about introducing a pilot set of competitions for completion by the end of the Trinity term. I am pleased to report the success of the inaugural Elemental 10x20 presentation competition in the First and Second Form, the initialisation of a Middle School essay competition, and the publication of the very first edition of The Scholars’ Annual. A most pleasing result of the presentation competition was the other soft skills required to present, and how it allowed not only the best scholars to exhibit, but hopefully inspired their peers too. Everyone in that assembly learnt something extraordinary and unexpected that day; it was a real triumph for true scholarship.

The Annual is an extraordinary broad and impressive collection of works of scholarship from across the disciplines and the age range of our students. I believe the biggest testament to its success is that 57% of the published works were submitted by non-scholars, boys who previously had no access to the Scholars Programme, nor an avenue to express their prodigious individual intellectual abilities. I am quietly hopeful that this newly kindled atmosphere of aspirational scholarship will spread like wildfire throughout the student population, leading to an enriched and uplifted educational landscape for all, a goal that should surely be at the centre of any true programme for scholarship.
The order of things

An enquiry by Daniel Jackson, Teacher of Mathematics at George Abbot School

Can spacing methods improve attainment and resilience in the new mathematics GCSE?

Abstract

Mathematics, and certainly mathematics homework, has been delivered in much the same way since time immemorial. Learn a skill, practice it over and over again, learn a new skill and repeat. This learning style relies on the premise that once taught, never forgotten, which is evidently not true. Research in the late 19th century by psychologist Hermann Ebbinghaus indicated that memories decay at an exponential rate, and for memory to sustain frequent review must occur.

Fig. 1: The decay of retention over time

In order to provide pupils such opportunity to review, across the year I provided pupils with weekly homework containing both current and review material and sought to demonstrate an improvement in both attainment and resilience.

A new educational landscape

Recent changes to the mathematics curriculum have forced teachers to rethink how mathematics is delivered in the classroom. Fig. 2 shows the first question from the old GCSE paper (top) and new GCSE [mock] paper (bottom). Clearly the new GCSE requires problem-solving skills as well as combining multiple skills (in this case both highest common factor and converting units of time). The main changes to the curriculum are the complexity of the material combined with the problem-solving nature of the majority of questions.

Fig. 2: Q1 from 2016 and 2017 (mock) GCSE higher papers

Having already taught the new GCSE for a year to a top set group, the main issue I encountered was pupils didn’t readily have the knowledge available to answer a given question. To improve my teaching for the following year with a Set 3 group, I designed a new set of homework whose purpose was to assist pupils to constantly review material as well as build problem-solving into the learning.

Spacing methods

As mentioned in the abstract, most mathematics is taught in blocks. Pupils typically learn a skill, practice it at length, and then move on. Research has shown that there are diminishing returns in this model, and eventually a “saturation point” is reached in which no more learning occurs on a particular topic. Spacing methods revolve around the notion that material does not need to be taught in one block but rather with space between delivery times so that material is reviewed and the mind has time to digest and synthesise the knowledge. John Hattie’s meta-analysis work indicates that spacing methods overall have an effect size of around 0.7. When designing the weekly homework, around half the material was based on work completed that week, a quarter looking back one to two weeks and a quarter on any topics I felt warranted further attention. This was based on established research which showed that the choice of lookback window influences the results, and that the lookback window needs to be reasonably short.
**The bleak midwinter**

I launched this with my Year 10 Set 3 group in Autumn term (at George Abbot there are 6 sets on each side of the group). Each week I emailed them the homework as well as putting it on a shared GoogleDrive and tweeting reminders on the school maths Twitter feed, using digital media in an attempt to break from traditional methods. The first few homeworks were completed by around 80% of the pupils but of those only around 50% to a good standard. These numbers decreased as the term went on, and just before the end of term only 20% of my class submitted any homework.

During this term I tried a variety of things to improve engagement. I tried increasing the scaffolding within the problem-solving homework by providing many more steps. I tried providing relevant YouTube links along with the homework, which was designed both to assist pupils but also to encourage them to become more independent in their learning. Neither of these had any measurable impact.

Just after the Christmas break the class had their first major test, which covered all the material they had covered to date. These tests were to me a major indicator of whether or not this project was working, and at this point there was no evidence to suggest that my class were any more successful than their equivalent counterparts on the other half of the year. What I did note was that my better pupils (five in number), who had been completing homework regularly to a good standard, had outperformed their counterparts and as a result moved into Set 2. My lower ability pupils, however, were certainly doing worse than their counterparts.

**A fresh start**

To improve the completion of homework as well as the standard to which it was being completed, in the new year I did a student voice survey with the pupils. What overwhelmingly came out of this was that more resources were required for pupils to complete the homework as they felt stuck and frustrated. When we discussed the YouTube links I had provided before, pupils made it clear they just wanted “clear concrete resources” and “tips or examples to show or explain how to do it”. Initially I tried providing hints to help, rather than explaining what to do as in Fig. 3. I wanted pupils to see how to break down a problem but without providing them everything they needed. The number who completed homework went back up to around 60% but there were still two issues: how to boost this number and how to help those at the lower end of my class.

![Fig. 3: A typical question and some hints and structure](image)

**Flipped learning**

After the spring half-term, a wholesale change in approach occurred. I removed the majority of the spaced problems from the homework and instead put them as starters at the beginning of lessons, and hence as a result the homework became blocked. The motivation for this was some pupils who mentioned that they lacked the confidence to complete more challenging questions without regular support. I also removed the hints from the homework and replaced them with clear and obvious structure at the beginning of homework.

![Fig. 4: Clear expectations and model solutions](image)

This almost instantly improved the situation. Homework was being completed by almost all (there is a group of 5 who don’t complete homework in any subject!) and to a good standard as well. Pupils were engaging with the starters and in class were asking both each other and myself for help to complete them. The most satisfying event was to see 26 out of 31 books...
complete a homework on entirely Grade 8 and Grade 9 work, including some new problem solving questions, to a standard I would be happy with from my Set 1 class. It is clear to me anecdotally that class resilience has improved too. I have included below a comment from one of my pupils, who completed only 2 of the first 10 homeworks, but now regularly completes all homework to an excellent standard. Whilst trying to complete what was a difficult homework, he got stuck and FaceTimed a friend in class, the two of them trying to complete it together.

![Image](image.png)

I praised both of them in class for the effort they had put in and the way they tried to work together, and presented this as model work. This method of working has now become embedded in most pupils in this class. The scores on end of topic tests were also improving (there are 20 of these in total across the two years), which I put down to block practice homework. My main concern was now whether they could perform in an end of term test which covers the entire syllabus to date.

Results

The end of term test which all pupils took was the next major indicator of whether this project was working. Below are two box plots, one of my class and the other the equivalent class on the other side of the year. The minimum, lower quartile and median are all roughly the same, which in itself is pleasing as it shows that the lower end of my class have improved from where they were at the end of Christmas term. The upper quartile is well beyond the other class, and is comprised almost entirely of pupils who have completed all homeworks and always engage actively with the starter activities. I also ran a t-test on the mean scores of these tests which indicates that my class are performing better at the 10% significance level.

![Box plots](image.png)

Conclusions

Whilst this project was seemingly successful, the deviation from the original scope of the project was wide. To a large extent, the fault lays with the design of the original homeworks which were almost certainly beyond the scope of a Set 3 pupil at our school. These pupils are not typically exposed to any serious problem-solving questions nor given homework designed to really test their resilience or ability to utilise multiple skills at once. The later format in which problem solving and spacing are used in class, but blocked work is used in homework, certainly works well with lower ability sets and it was pleasing to see good exam results as well as most pupils routinely completing homework.

Next steps

I would like to try the original scope of the project with a top set group next year. I hypothesise that they will be better equipped to deal with the demands from the beginning and they will make better than expected progress from the regular revision of skills.

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Made to Measure- Manipulatives in the Classroom

An enquiry by Danielle Elson, Rebecca Kelly and Christine Robinson, Maths leaders at Boxgrove Primary School

How do children use resources to aid independence in Maths?

Do you need concrete if you have abstract?

There is often a misconception among parents, practitioners and children that children only need to use concrete resources if they are struggling to find the answer to a question. Recent research suggests that in actual fact all children should use concrete resources to aid their conceptual understanding and therefore their independence in mathematics.

The current vision for mathematics in the UK is that all children should experience concrete, pictorial and abstract methods, the idea being that children will be able to understand the abstract by doing the concrete and pictorial stage first. The concrete, pictorial and abstract approach (CPA) was developed by American psychologist, Jerome Bruner. This approach is the mainstay of mathematics teaching in Singapore.

Children and adults can find mathematics difficult because it is abstract. The CPA approach helps children learn new ideas and build on their existing knowledge by introducing abstract concepts in a more familiar and tangible way. The approach is so established in Singapore maths teaching, that the Ministry of Education will not approve any teaching materials which do not use the CPA approach.

Sharing the message

Ofsted’s 2012 report, Mathematics: Made to Measure suggests that although manipulatives are used in some primary schools to support teaching and learning they are not used as effectively or as widely as they might be. We wanted to find out children’s attitudes to manipulatives and if they are using them as effectively as they can.

Maths Tool or Mythical Creature?

We chose two focus groups of six children from Year One and Year Four. We tried to make our focus groups as representative as possible. Our focus groups included:

- three boys, three girls.
- children from across the ability spectrum in Maths (two working towards the expected level, two at the expected level and two working at greater depth).

- a Pupil Premium child.
- a child with Special Educational Needs.

Firstly, we carried out a baseline assessment in Year 1 and Year 4, of the children’s understanding of resources and how to use them. From this we discovered the following:

- The children were not sure of the names of all the resources (referring to Numicon as ‘Unicorn’) and were unaware of how they could use these to support themselves.
- The more able children preferred not to use resources because they felt they did not need them
- Girls preferred using resources over boys
- Children were more focused on finding the answer than showing their conceptual understanding through the method

Thinking outside the box in Year 1

Things weren’t quite how we had anticipated in Year 1. We met a hurdle from undertaking our baseline data that took a turn in our research.

In Year 1 resources are always kept in the classroom, however, lessons were always resourced stereotypically to the unit. We wanted to come away from Dienes simply being used for place value and Numberlines being a big focus for addition and subtraction. We had seen a range of resources being chosen by the children in the previous Year 1 cohort. These resources were used effectively and we could see the children had thought outside of the box and had been creative with what supported them. Our initial aim was for children to have independence and ownership over the resources that would support them. Teaching a mastery approach opened up so many opportunities for a range of different resources to be on offer.
Data Collection

At the end of each lesson, we recorded any resources that each child had used to support themselves. In Year 1 an adult gathered the focus children and recorded their answers; in Year 4 the children filled in their charts themselves.

We continued with this style throughout the year and it was extremely beneficial.

It is also useful to note that the children who felt as though they didn’t need resources to support them found it more difficult to use them. However, once they did their mathematics learning became much richer and deeper, many leaving Year 1 working at a level of greater depth.

Resources at the ready – Year 4

Higher up the school, there was a general perception that manipulatives were used primarily by those children who were struggling with Maths or those who usually had adult support. Resources for Key Stage 2 were often stored outside the classroom, brought in by the teacher for a particular lesson.

We sought to change that perception, to introduce the concept of manipulatives as a support tool for all children. Common resources were gathered together into a Maths tray for each table in the classroom, put out by a monitor at the start of each lesson. The resources included place value counters, multiplication grids, number lines and squares, dienes, multilink and bead strings. Larger resources, such as boxes of Numicon, were put on display in a Maths Resources corner of the classroom, with the children being encouraged to get up and fetch a resource at any point in a lesson if they felt it would help them.

As in Year 1, we soon discovered that the children needed to be taught how to use the supplied resources. We built this into lesson starters (“use any resource in your tray to show me 4x7”), talking through the children’s choices and discussing which were the most useful. When starting a new unit in Maths, we taught lessons that required the children to use the manipulatives to show their working, regardless of whether they already “knew” a method. For example, all children started working through column...
This helped to flush out misconceptions from those children who knew a method but did not understand the logic behind it, as well as providing a method of support for those who found subtraction difficult. We also created an I’m stuck! help sheet for the Maths trays that reminded the children of the resources available, and the strategies that they could use to help themselves.

**Conclusions and Observations – Year 4**

The data collected shows an increase in the number of resources used by the children across the ten weeks surveyed. The impact of the project itself in the classroom was threefold.

Firstly, requiring all children to use manipulatives to explore a concept provided excellent opportunities for them to practise their reasoning skills. This particularly helped to ensure that the more able children, who might be able to use a particular method on paper, really understood the logic behind it and could therefore move on to explore and tackle more complex questions.

As the project progressed, we observed a difference in the way that the children approached their mathematics challenges. Previously there would be children who would not know where to start to answer a question, who might sit blankly or immediately ask an adult for help. Having resources at their fingertips, and an understanding of how to use them, gave the children more strategies to be able to at least “have a go” at the challenge themselves. This was a clear indicator for us of their increased independence.

Often a lack of confidence holds children back in Maths. We noticed that feeling able to work more independently and help themselves in a Maths lesson, without needing to always resort to asking for help, gave those children who were struggling in with mathematics a real boost in confidence. We observed the biggest increase in the “lower core” children, who are just about keeping up with the lessons, but have to work hard to stay there.

**Next steps**

In Year 1, we will continue to include the exploration section within our planning. We have also ensured that this will continue with the current Year 1 cohort into Year 2. The children will also be learning how to use resources in Reception, so they arrive in Year 1 with some knowledge of the resources and how they could use them.

In Year 4, we observed that the girls in the study reached for the resources more readily than the boys, used them more effectively to support themselves, and enjoyed the most noticeable boosts in both confidence and independence. It would be interesting to investigate further to determine why the girls benefitted more than the boys and find out if we could adapt our approach to reach out to and support the boys further.

We also had interesting discussions with the children in Year 4 as to whether or not our mini whiteboards counted as a Maths resource. We had not originally included it as a category on our recording sheets, however it transpired that most of the children in the class reached for the whiteboards to support themselves in almost every lesson. Many of them did not feel the need to use manipulatives, but still relied on pictures or jottings to work through a challenge. This prompted us to think carefully about ensuring that children have the tools to “move on” when they are ready from manipulatives, that they understand how to use jottings as a bridge between the physical resources and the abstract concepts.

It will also be important to continue encouraging all children, of every ability, to use resources. The evidence collected has clearly shown a number of benefits and it is therefore important that this is now rolled out across the whole school, and to every child. Each child will have a much deeper understanding of many areas in Maths and increased confidence in exploring key concepts independently.

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A Place for Direct Instruction?

An enquiry by Gemma May, Head of English at George Abbot School

This enquiry considers whether using direct instruction to teach specific aspects of SPAG (Spelling, Punctuation and Grammar) would benefit students in their GCSE written tasks.

The issue/opportunity

There is much debate in the educational world, about the place of direct instruction in a modern classroom. Some teachers are of the traditional view that knowledge is key and direct instruction crucial to its delivery, however, more progressive teachers argue that discovery learning nurtures more independent learners. I am of the thinking that these binary standpoints can coexist and that direct instruction does, indeed, have a valuable place in today’s classroom.

Having read much of the debate surrounding traditional vs progressive attitudes to teaching – mainly on Twitter – I decided to take the opportunity to research this further as part of my own teaching. I read the controversial but important work of Siegfried Engelmann ‘Teaching needy kids in our backward System’ and Barak Rosenshine’s ‘Principles of Instruction’ to gain better insight into the debate surrounding direct instruction, past and present, and asked myself an intriguing question: Could direct instruction benefit my students, starting out in their GCSEs, with a specific aspect of their learning?

The importance of students implementing correct SPAG (spelling, punctuation and grammar) has increased with the new specification in English Language and Literature. Now, students are awarded specific marks for how well they spell, their range of vocabulary and punctuation and their ability to use sentence structures precisely and effectively. This is not only the case in English specifications. Geography, History and Religious Studies also now award SPAG marks in their examinations. The importance of SPAG learning and application is much further reaching than just the English classroom. With this in the forefront of my mind, I took the opportunity to meld my ideas of direct instruction and SPAG.

Hypothesis and enquiry question

I expected to find that using direct instruction to teach specific aspects of SPAG, would benefit students in their GCSE written tasks. I believed this to be so because it would mean two things: Students were given more exposure to explicit grammar teaching at Key Stage 4 and that they would be taught it in an explicit and objective manner. I also expected to find an improvement in their written work outside of the English classroom.

So, my central question became: ‘How does the use of direct instruction impact on student application of SPAG?’

I expected to see less frequent misuse of SPAG and an improved attitude to using SPAG in extended written tasks.

My intervention or action

Firstly, I chose a teaching group that I would deliver a series of SPAG lessons to via direct instruction. Once my timetable was decided at the end of last summer, I decided on a low ability small Year 10 group. The rationale being that they were new to me – I had not previously taught any of the students before – and new to the GCSE. In English our GCSE content is explicitly taught in Year 10 and 11. Further, there are two similar groups in the year group, the other side of the year group forming my control group.

Next, I set about planning which aspects of SPAG would be most pressing for this particular group to learn. I decided upon punctuation and focussed on full stops, commas and semi-colons. Again, the rationale was that these particular students often struggled to ensure their sentence structures were correct. They also did not fully understand the place of punctuation in creating effective sentence structures in their descriptive writing.

Over the course of two terms, I taught starter activities that directly instructed students how to use punctuation correctly. This was then followed by a written activity – whether a short ‘correct the error’ task or a longer written piece in which they had to implement their newly acquired knowledge. This was repeated on a weekly basis and became part of the routine of the lesson. Students responded positively as this routine was embedded into their learning but sometimes did not enjoy the repetitive nature of the
task – they were often vocal about this! They seemed to prefer the tasks where they could see the impact of SPAG in longer written pieces. For example, in the photographs below, students were asked to describe a scenic image showing some mountains. They were asked to include full stops correctly:

![Image 1](https://example.com/image1.jpg)

Fig. 1: Student E sample 2/11/16

As the sessions progressed, I asked students to focus on accuracy in more than one area. For example, it is apparent in the work above that students have attempted to use full stops correctly. They did not, however, also think about their placement of commas and semi-colons. As the year progressed, so did students’ ability to include more than one correct aspect of punctuation. The resulting work at the end of the year shows in an increase in not only accuracy, but also frequency of varied types of punctuation:

![Image 2](https://example.com/image2.jpg)

Fig. 2: Student D sample 2/11/16

In Fig. 3 – completed by the same student as previously – the sentence structures are secure and show a range of punctuation. Full stops, commas and even a semi-colon are used correctly. Students were pleased with their progress when we celebrated such writing in the lesson.

During my enquiry, I continued to teach SPAG via direct instruction on a weekly basis. I asked students to complete two attitudinal surveys: one in February and one in May. Towards the end of my enquiry, I set about analysing two types of data: quantitative – the frequency of SPAG errors in written work; and qualitative – the attitude of the students towards the use of direct instruction, the results of which are explained in the next section. Additionally, I compared my results with those of the control group and also looked at the impact of SPAG teaching in other subjects.

The evidence of impact

Quantitative data: The frequency of errors

Firstly, I analysed the impact of the direct instruction sessions on the frequency of errors in the classes written work. I used an example of their work, one per month, to count the errors made (full stops, commas and semi-colons only) in an extended piece of writing. Each time, students were asked to write for ten minutes based on the topic we were currently studying. For example, earlier in the year the pieces were predominantly descriptive but this altered to persuasive writing in March. It is evident from the chart below that the frequency of errors increased with this switch in writing purpose.

![Chart showing frequency of errors over time](https://example.com/chart.jpg)

Table 1: Shows the frequency of errors in extended writing in my Year 10 group

All students ended on a lower frequency of errors from where they started. This, I would deduce is evidence
that my hypothesis was correct and that the direct instruction sessions had a positive impact on students’ work. However, compared to the control group, the results are not as impactful as I would have hoped. This group, too, made improvements as the year progressed. Perhaps there is a natural maturity in students’ writing due to the amount of feedback that they receive over the year from their teacher. The results of the control group are below:

Table 2: Shows the frequency of errors in extended writing

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Overall, there were some extremely positive results in both groups, however, my group showed a mean average of fewer errors over the year - 2.75 - compared to 2.87 in the control group.

Qualitative data: The attitudinal survey

In addition to the tracking of errors in written work, I wanted to know what students felt about their direct instruction sessions and how they felt it impacted on their work. Anecdotally, the class often seemed to be positive – especially when they could see the frequency of errors decrease – about their SPAG application. In February, I sent the group a survey to glean how they felt the lessons were progressing.

Students were asked to rank their response on a scale of 0-5, 0 being ‘Not a lot’ and 5 being ‘A lot’. When asked ‘How much do you enjoy descriptive writing?’, the average of students responded 2. Later in the year, in May’s survey, this increased to 3. Similarly, when asked ‘How much do you enjoy grammar lessons?’, students responded 1 in February which increased to 3 in May – a positive improvement so far!

In comparison to how they felt about the lessons in general, students overwhelmingly felt that the benefits of learning grammar were beneficial. When asked in February ‘How much do you think you would benefit from more grammar lessons?’, students responded 5.

This remained the same in May. They also responded to ‘How much do you think your grammar is improving?’, with a 3 in February and May. Confidence had also increased between the surveys with the question ‘How confident do you feel about punctuation?’ increasing from 3 in February to 4 in May.

Finally, some really useful comments were provided at the end of the surveys. Students were asked ‘Finally, if you could focus on one thing in English, what it be and why?’

Student E: “I really need to work on my descriptive writing and punctuation. I found this out because I noticed how little I used complicated words and how little I use commas, full stops etc. and where I put them."

Student B: “Learning fully all the types (e.g. •Noun. •Verb. •Adjective. •Adverb. •Pronoun. •Preposition. •Conjunction.)”

Student C: “I would like to focus more on what adverbs, adjectives, verbs, adverbs, nouns, pronouns (etc.) are.”

In conclusion, my hypothesis ‘I expected to find that using direct instruction to teach specific aspects of SPAG, would benefit students in their GCSE written tasks’ was correct.

A reflection on my own learning.

In completing this enquiry, I have realised the importance of explicit grammar teaching via direct instruction. I have also learnt that repetition of instructions and tasks is also crucial in embedding knowledge and skills. Students benefit from this style of teaching and ultimately, it increases their confidence in applying elements of SPAG. The benefits of teaching in this style could also be transferrable to other subjects:

In Fig. 4, student D is completing some engineering work. They have shown correct use of full stops and commas as well as improved grammar. It would be lovely to further investigate the impact of direct instruction in SPAG teaching on other subjects in the future.
How I intend to sustain any benefits and share with colleagues

As a result of this enquiry, I will firstly present my research project to the English department; I want to share my results and the impact of my project with them. I am passing on my Head of Key Stage 4 role next academic year and feel that this information will be key in designing and improving our current schemes of work. Secondly, I would like to inform the heads of department that are directly responsible for specifications that include marks for SPAG at GCSE of my findings. Finally, in liaison with the school’s literacy coordinator, I would like to consider how all teachers in the school community can better support students with their application of SPAG across all subjects.

References

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Social Media, Mental Health and Relationships in the Classroom

An enquiry by Rebecca Guncill, Assistant Pastoral Lead at George Abbot School

An investigation into the links between social media and mental health in Key Stage 4 using a range of data collection methods.

The Issue

In 2001 there were less than one billion users of social media worldwide. Today, there are 2.51 billion with the projection that there will be just short of 3 billion users by 2021. This means that one third of the world will have a social media presence in the next 2½ years. Coupled with the ever expanding world of technology and the prevalence of smart phones, tablets and wearable technology, we are kept up to date with the latest goings on in the world; socially, locally and globally, the instant that it happens.

It has been reported that there has been a rise in issues to do with mental health, and whilst it affects all ages, the well-being of teenagers is very much at the forefront of many of the articles found online and in the news. Headlines such as “Teenagers sleep quality and mental health at risk over late-night mobile phone use”, “Facebook and Twitter harm young people’s mental health” and “Children need to be in the right mental state to learn effectively” suggest that there are links between our reliance to be connected to the virtual world and how we feel in the physical world.

Here at George Abbot one method we use to collate the way students feel about themselves and their school life is in the form of a survey during the Autumn term. The PASS survey (Pupil Attitude to Self and School) is a nationwide survey developed for schools by GL Assessment. It is a set of 50 questions such as social media usage, expectations, pressure, objectification has led me to believe that the increase in exposure to social media has created a more intense and complicated teenage life and potentially an increased negative experience of school.

The Enquiry

The PASS survey reports findings over nine areas. Attitudes to Teachers, a section that “measures a young person’s perceptions of the relationships they have with the adults they work with in school and of all the factors this one is the most positive in terms of maximum response nationally” is the area that scores the lowest across the board at George Abbot. There are five questions that generate the data for this category; ‘My Teachers Notice When I have Worked Hard’ seems to bring about the most negative results. As a teacher of Year 11 I could not understand why there was such a discrepancy between my perception of feedback and what the girls felt they did, or more importantly did not receive.

Starting Out

I chose the Year 11 2016-17 cohort to base the study on as it was relevant to the initial data but also the year group that I had been attached to as a pastoral leader for four years so felt that with a greater rapport, they were more likely to confide in me. I had the Year 11 statistics from 2016 as well as the data for the current Year 11 as Year 10 students so would have comparable results by the end of the study. In order to recruit volunteers, I presented my initial thoughts in an assembly to just the female contingent of the year group. A straw poll at the time indicated that only 5 students out of a possible 128 did not have any social media accounts. A Google Forms survey of 21 questions that covered areas such as social media usage, expectations, pressure, and identity was then emailed to each of the girls and 68 responses were received, a 53% return.
Closer inspection of the responses generated showed that Instagram was the most popular social media platform with Snapchat coming a close second with Facebook third; all three top the lists and polls in various orders both nationally and across the globe.

In a 2014 report on Online Social Networking and Mental Health by Dr. Igor Pantic “the prolonged use of social networking sites (SNS), such as Facebook, may be related to signs and symptoms of depression”\(^4\) with The Guardian stating in an article that “Instagram has the most negative impact on young people’s mental well-being”, and that it deepens “young people’s feelings of inadequacy and anxiety”\(^5\). The issue primarily being that these are image-based websites that showcase a carefully edited version of the perfect person and the perfect life which creates feelings of inadequacy at a time where according to “The Stages of Adolescent Development”\(^6\) is a crucial time where teenagers are developing their own identity and when they are increasingly self-conscious about their appearance.

The questionnaire revealed that 33% of the respondents claimed to check social media hourly, 20% said that they were constantly plugged in, and 37% of students admitted that their dependency on social media was excessive but that they were unable to control it. Nearly all students accessed social media through their smart phones, which are carried on their person throughout the school day.

All students identified positives and negatives of social media use and many were very articulate and mature in their descriptions of how SNS impacted on their lives including; how it helped them to identify future goals, gain knowledge and find like-minded people. Many admitted that it was incredibly distracting and that image-related pressures had a detrimental effect to their mood which also appeared to correlate with the answer to the question; “What do you think the main pressures teenage girls are under these days?” with 62 out of 68 (91%) responding ‘to look good at all times’. When asked where they felt the pressure came from, 52% stated ‘all media’ (including social media) was responsible. Only one student felt that teachers applied the most pressure so it became apparent that this was not a reason that students felt negative towards staff.

**Turning a Negative into a Positive**

In the Year 11 leaver’s book there is an award for the ‘best teacher’ and every year the same member of staff is awarded the accolade. Assuming that the female teacher had always won by a huge margin, I analysed the voting forms of the females in the year group to see if this was the case. A total of 87 teachers from a pool of 128 teaching staff were voted for; most received between one to five votes and the usual winner received 10 votes along with another member of staff, so not a huge margin as I initially thought.
Looking further into the figures it would appear that a greater number of female teachers were voted for but at a ratio of 2:1 in female to male teaching staff this to some degree is to be expected. When I linked the names of the students to the teacher they voted for it became apparent that staff were voted for reasons personal to the individual; how often they had contact with the teacher, if the teacher taught exam classes, how many exam classes the subject had, passion for the subject, strictness of the teacher and so on. A good portion of the subjects picked tended to be the so called ‘soft subjects’ but interestingly Maths, at times a difficult and compulsory lesson, received the most votes overall but with a greater number of students taking the subject it could be reasoned that a higher proportion of votes would be generated.

Another angle to consider is that 32% of the female population of the year group did not cast a vote and the reasons for this can only be speculated; the likelihood that it was very much they liked all teachers as they did none, time pressures to submit the forms and absence at the time of completion are all important factors to consider.

**Focus Study Interviews**

Profiles were created for each of the 14 students that volunteered that included their PASS data, their progress information and a summary of their pastoral history. The majority of the volunteers appeared to be high-achieving students with little in the way of issues at school. This made interesting reading as six out of the fourteen students scored low on the section ‘attitudes to teachers’. Due to time constraints and availability I conducted one to one interviews with 10 out of the 14 volunteers to ask them firstly about the online presence and then about relationships with staff. With regards to social media, the results seemed to suggest that the more apparent self-belief and confidence a girl had, the less likely they were to need to check social media throughout the school day and all agreed that it was not beneficial or useful to do so. Those who felt less positive about themselves and school overall were more likely to rely on social media at regular intervals. This served as both a tool in which to support their self-esteem as well as impacting directly on moods, often compounding their wish to not be at school.

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<th>Not really</th>
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<table>
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<th>Recognise hard work?</th>
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Fig. 3: Results from individual interviews

Asked about their feelings about school, six students said that they ‘liked their teachers’ but only one said that teachers ‘recognised good work’ and two said that staff ‘recognised hard work’. When requested to elaborate on how they felt about teachers they seemed to have a desire for staff to be more interested in them as a person enquiring as to their well-being, as well as being more open and positive. The volunteers offered a list of what they thought teachers did well and what they could improve upon, which harvested no particular surprises. Overall it seemed that students craved a more relaxed, positive and useful classroom and there were suggestions that teachers in general are “negative”, care too much about grades and do not offer enough constructive feedback.

Armed with these suggestions, I went to observe one of the teachers with the highest number of ‘best teacher’. The subject was a Year 11 History lesson and the member of staff female. It was too difficult
to assess the lesson under the criterion provided by the students, partly because the opinions are subjective and also because there were so many, but overall the lesson felt positive; lots of praise was used, there were a variety of tasks to complete and independence was encouraged. All things that we as teachers have been advised to do, during our initial training and subsequent CPD sessions.

The last piece of research that I conducted was with the volunteers as a group. Using a PowerPoint presentation, I showed the girls various images found online and asked them questions about what they thought and how it made them feel. On reflection I think that there were too many specific questions and many that were not as clear to understand as I had hoped therefore the information I gained from this was not overly useful. Interestingly, a lot of the answers were very balanced and did not show particularly negative or worrying preferences to body shape or image. It also did not provide much in the way of useable data. The last question regarding availability of imagery online and what they would like to see more and less of on social media appeared to be the most helpful, generating answers such as; “I’d like to see more selfies of people looking happy”, “I think that there is an unhealthy obsession with body image – I wish that there were more photos of people smiling with no make-up on and less Photoshopped photos” and “I’d like to see less negative portrayals of people and more positives about everyone no matter what they look like”.

Difficulties Faced

One of the biggest problems I encountered was that due to budget constraints it was decided that whilst the PASS survey would still be taken in the Autumn term, the Year 11 students would not complete it meaning that I no longer had any comparable data.

Another issue I hadn’t considered would be the shortness of time: as this was a pastoral study I did not have a class that I saw regularly and I could not remove students from their lessons and with the GCSE year being shorter, I had less time in order to gather the information I needed. I decided at the time that volunteers would be best for a focus body but looking back at the students that took part in this investigation it may have been wiser to have selected a cross-section of students using their PASS data as I do not feel I had a diverse enough group.

Recommendations and Next Steps

A topic of this magnitude will take longer than a year to unpick. In order to generate specific, measurable data this study would need further investigation but there are potential areas I propose that may see an upturn in the data.

Ban mobile phones in school. In the virtual world, young people are empowered and have control over their lives and that they are reluctant to follow the school policy of having their phones switched off and in their bags. This means that often they are constantly ‘switched on’ and receive a steady stream of distracting and potentially negative ‘information’ that affects their moods, focus and output during the school day. A school-wide ban is less personal and easier to implement than expecting moderation of use.

Mobile rage: Meet the mums who’ve been ATTACKED by their little girls for trying to confiscate their smartphones

The Old Hall School in Wellington, Shropshire and Taporley High School in Cheshire are two schools that have embarked upon a week away from electronic devices to improve the progress and well-being of students. Fully address the presence of technology in our lives, highlighting the positive and negative aspects of use to remind students about the world outside the virtual.
More social media training in schools. Many students in the initial survey were not able to describe their own identity. Greater education on what identity is and how it is formed, along with the pitfalls of media projections will help to ensure that students become more confident in themselves and less reliant on online affirmation. One way to present key information on the topic is to bring in more outside speakers who are able to discuss matters and issues from the viewpoint of an expert that students are more likely to regard. Programmes could be put together that are delivered by form tutors and become very much part of a well-being curriculum. There are lots of suggestions with regards to improving mental well-being with articles and infographics covering “how to be happy”, “anxiety buster” and “de-clutter your life”.

More positivity to be injected in to teaching. A more controversial recommendation; schools and classroom teaching is being adversely affected by government cuts, implementation of new curriculum and progress 8 scores that can mean teachers own mental well-being is not at its highest. Eschew the relentlessness of initiatives to get back to the fundamentals of teaching and use the suggestions of the students to build positive relationships and inspirational classrooms.

Continue the study and investigate the topic further. Look into the feelings of younger females, as there is time to look for patterns and trends as well as seeing where the change begins to shift. Consider exploring how the male population of the school feel as body image also affects boys. According to a report on the BBC News website, 55% of 18-year-old men would “consider changing their diet to look better” and 56% did not feel comfortable with discussing body-related concerns with teachers. Statistics show that “men in the UK aged 20 to 49 are more likely to die from suicide than any other cause of death” and that it kills three times as many men as it does women, it would seem that this is becoming an increasingly important area of well-being that should be investigated and considered.

Conclusions and Wider Reading

During this study I read countless media articles as well as embarking on four courses via the distance learning website Futurelearn. Much of what is available out there is biased one way or another and often the data collected has been cherry-picked to support the argument being made. This makes it difficult to remain neutral and consider evidence that supports both the positives and the negatives of the use of social media. Futurelearn presented the most rounded arguments and were the most useful in the research I conducted. The courses are free and some such as ‘Learning Online: Managing Your
Identity’ are aimed at young people to complete and could be set as homework projects.

Whilst the PASS survey is a real-time snapshot of the feelings of students at school, can it be wholly relied upon as a key indicator as to how the school is doing? It is clearly a subjective survey and can be influenced by a range of factors outside of the schools control. It did however, flag a wider issue that is very much worth investigating and does provide year on year measurable data.

When looking at “The Stages of Adolescent Development” it would appear that the attitudes we have been seeing at George Abbot are what is expected for young people aged 14-17 and not necessarily specific to our school or the staff within it. What is important is the scaffolding we provide as adults to ensure that the students develop within healthy boundaries.

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A brief coach journey

An enquiry by Tom Shimell, Assistant Head, & Garth Williams, Deputy Head, at RGS Guildford

Could coaching techniques be effective for supporting and developing those in leadership roles in our school?

The coaching utopia

Teaching can be an overwhelming profession and is typically populated wonderful, positive staff who often take on more than they should but can sometimes struggle to meet their own high standards. Schools therefore need strong support and development networks to enable our most important asset – the staff – to, as the Blues Brothers would have it, “live, thrive and survive.” A common method used to achieve this is mentoring where the assigned mentor is usually the line-manager for the individual. In this enquiry we wanted to look at only one aspect of effective mentoring – coaching – to see whether it could support and develop our staff.

In a study by CompassPoint of executive directors of non-profit organisations who received executive coaching, six main areas were identified where coaching had a positive impact on the leader and the organisation: Greater leadership in the face of challenges and obstacles; improved internal communication; fostered confidence and trust; improved work-life balance; increased job satisfaction with lower stress; improved ‘fit’ and increased length of time leaders remain with the organisation. It was demonstrated that coaching was a fairly low cost, high impact strategy for leadership development and tended to exceed coachee expectations. However, coaching is not widely used in schools to support and develop staff (and, when used, is typically confined to the most senior staff) and Reiss (2006) postulates that it is “high time” that schools realise that coaching helps one be and become a better leader: “In a coaching approach, leaders bring out the best in others by using techniques and processes to develop awareness and creative choices”; it is “a process which leads to transformation for people and, in turn, the organisation they serve.”

Who’s coming?

The hypothesis of our enquiry was that we would be able to replicate some of the reported positive outcomes by engaging with middle leaders using coaching methodology. Our reason for focussing on middle leaders was based on anecdotal feedback that staff in these roles at our school often felt unsupported, especially in the first few years of a new role. In order to narrow the scope of our enquiry further, we selected to focus on Heads of Department (HoDs) and Heads of Year (HoYs). Our first action was to ascertain how HoDs and HoYs viewed their support and development opportunities to enable us to establish a baseline for later comparison.

First stop

The short survey of our HoDs and HoYs, with 21 respondents, revealed: the school had a great depth of experience with the majority in-post for 3+ years but greater turn-over in HoY positions; all HoYs are recruited internally whereas 50% of HoDs are external appointments; five HoDs, all with 5+ years in the role, reported ‘no support’ in their first year whereas those more recently appointed received a variety of support with the majority coming from a previous incumbent and/or a line manager – however in over 90% of cases this support was informally arranged; those supported by a previous incumbent tended to rate their support as very good; beyond the second year feelings about support improved with 100% of respondents feeling that they had someone to talk to about professional challenges and 85% about ideas for development. Comments generally indicated that more support and training in the first year in particular and more formal mentoring systems would be appreciated. The survey also allowed us to identify HoDs and HoYs who would appreciate speaking to someone about their role and enabled us to approach them regarding engaging in coaching sessions.

All aboard!

The next step we identified in developing coaching at the RGS was training for staff. Our initial plan had just been for the two of us to be trained and we identified a recommended trainer and also a suitable qualification: There were various options here, but the qualification which was strongly recommended was the ILM Level 7 Executive Coaching Award. As we explored these options our thinking progressed and it became clear that the best way to develop coaching at the RGS was to not just benefit from the training ourselves but to involve others. We, therefore, offered the five days of training to other middle and senior
leaders and ended up with nine keen staff. We finished the course in June 2017 and over half of the participants will complete the written assignment and at least 20 hours of coaching for the ILM award. The other half are intending to implement their training without completing the award.

We had some very positive written feedback from the staff who were trained. When asked what impact the training had had, staff responded that it had been

- reflect upon best way to develop people;
- get to the root of issues;
- encourage staff to come up with own solutions;
- ask more open questions with staff and with pupils in lessons and in pupil meetings;
- improve listening skills;
- chair meetings, especially in setting clear action points and outcomes;
- be more conscious about the questions I ask to my colleagues so that they’re not loaded;
- reflect on issues in my department and how to start tackling them;
- be more self-aware – to focus on weaknesses and celebrate strengths;
- look actively to offer support (formally) to my colleagues;
- have clarity and tools for dealing with difficult people and situations;
- Re-focus my management approach – talk, talk and talk some more;
- understand the inordinate value (to coachee and coach) of helping others to develop;
- learn that standards are essential as scaffolding for any development;
- learn the value of catching problems early and dealing with them quickly;
- be more assertive and to find the ‘win-win’ solutions;
- use quick informal mentoring or coaching conversations to enable people to move forward.

**Time to GROW**

Our initial plan of coaching a small number of HoDs and HoYs between us had developed into a larger undertaking with nine trained coaches and about fifteen volunteer coachees, largely but not totally, with middle leadership responsibilities. Care was taken to match pairs but coaches did not necessarily have experience of the role of the coachee.

Pairs arranged sessions on an *ad hoc* basis determined by need and availability and usually used a school period (40mins) to meet. The majority of coaches employed the basic ‘GROW’ model for their coaching (but a few also used alternatives such as ‘OSCAR’ and ‘CLEAR’); The GROW model uses questioning to draw out the *Goal, Reality, Options and Way forward*. The coach does not offer opinions but asks open-ended stimulus questions, listens, and follows-up to add detail or clarify; the coach will listen, repeat, summarise and help the coachee to explore and articulate what is important to them and how to achieve it. By the end of the session the coachee will have set themselves actions and deadlines and agreed a time for follow-up.

Towards the end of the summer term coaches were asked to complete a feedback survey regarding the coaching they had undertaken and there were nine respondents.

**Rear-view mirror**

Due to the cut and thrust of the school life, 75% of coachees engaged in only 2-3 sessions totalling between 1-4 hours of coaching. Two thirds were coached by someone more senior to them and one third by a peer. The majority (7 out of 9) of coachees found coaching to be a positive experience: it was helpful, increased their feeling of being supported and they would engage with coaching again (Fig. 1).

Coachees commented that the process was: very helpful, fun, useful, a learning or developmental experience, reflective, different, instructive, cathartic, empowering, reflective, reassuring, purposeful, worthwhile, friendly, enlightening, motivating, and, at times, quite emotionally demanding.

There was also a noticeable increase in the feeling of support offered from before coaching to after coaching (Fig 2).
trained and respected by the coachee; but whether this respect is due to the coach being seen as an expert in a field or due to their experience or simply by their professional relationship with the coachee seems less important. However, when the coach has deep knowledge of the coachee’s role it does allow a certain flexibility between mentoring and coaching which, dependent on the needs of the coachee, can be desirable.

Next steps

To continue to offer coaching and training in coaching techniques for those in leadership positions. To ensure that a more robust, formal mentoring system is in place for leadership roles, especially in the first year, and that coaching is offered as part of this provision. We have already had a commitment from twelve senior and middle leaders to do the ILM award this year; and by the end of 2017-18 we will have about 20 trained coaches on the staff.

Fig. 2: Survey responses contrasting support before and after coaching (1=Poor support; 5=Excellent support)

When coaching was not felt to be positive this was because coachees felt it to be “self-indulgent” or “a poor replacement for effective mentoring”, where one can learn from an expert’s experiences.

Where did we end up?

Despite the majority only engaging in a few sessions of coaching, the effect was largely positive with a clear indication that staff felt better supported in their leadership role when engaging in coaching. Since the other school support networks remained in place (such as line manager meetings and other ad hoc drop-in support) we are confident that this increase has been due to the arranged coaching sessions. However, without a control or comparison study it is difficult to discern to what extent the coaching methodology and techniques were causal and whether simply increasing formally arranged mentor or line manager meetings to discuss issues would have had the same effect. Anecdotal evidence from the coachees is that the coaching meetings had a different feel and ethos to ‘normal’ meetings for the following reasons: firstly, the coach does not have an agenda and refrains from telling, guiding and giving opinions; secondly, none of the coaching pairs were with the formal line manager and the meetings were bound by confidentiality agreements; thirdly, some coaches did not have direct experience of the leadership role of the coachee but positive results were still obtained.

It is apparent that the most immediately effective coaching occurs when the coach is experienced, well-

References

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