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TEACHING TO THE TOP: STRATEGIES FOR RAISING ATTAINMENT AND CLOSING GAPS AT GCSE

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EDITORIAL

WHOLE SCHOOL

SUBJECT SPECIFIC

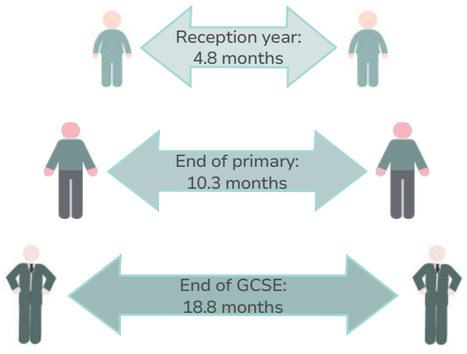
REFLECTIONS ON GCSE ATTAINMENT.

Dr Iro Konstantinou | Head of Research and Impact, Eton College

The most recent data published by the DfE show that in the 2023/24 academic year there were 4,085 state-funded schools with 629,207 pupils at the end of KS4. Analysis of student attainment shows that:

- 45.9% of pupils achieved a grade 5 or higher in both English and mathematics. This is an increase of 0.6 percentage points (from 45.3%) compared to 2022/23, and an increase of 2.7 percentage points (from 43.2%) in comparison with 2018/19.
- The KS4 disadvantage gap index has narrowed slightly compared to 2022/23, from 3.94 to 3.92. Before the pandemic, the gap index had widened going from 3.66 to 3.70 between 2017 and 2019, before narrowing slightly in 2020 to 3.66 when centre- assessed grades were used.
- The attainment gap, showing the differences between disadvantaged pupils and non-disadvantaged pupils, has slightly widened in Attainment 8 when comparing to both 2018/19 exam data and 2022/23 data. For the percentage achieving grade 5 and above in English and mathematics, the gap has slightly widened since 2018/19, and 2022/23. For the percentage of pupils achieving grade 5 and above in English and mathematics, the gap increased from 2022/23 (27.2 to 27.3) and also increased compared to 2018/19 (25.2 up to 27.3).
- The average Attainment 8 gap has widened from 13.6 points in 2018/19 to 15.3 points in 2022/23 and to 15.4 in 2023/24. The widening was caused by the disadvantaged group having a larger decrease than the non-disadvantaged group.
- Progress 8 scores for disadvantaged and non-disadvantaged pupils showed that non-disadvantaged pupils averaged a Progress 8 score of 0.16 whereas disadvantaged pupils averaged a Progress 8 score of -0.57. This means non-disadvantaged pupils, on average, progressed more than expected when compared to pupils in their prior attainment group, whereas disadvantaged pupils achieved over half a grade less than expected by the end of KS4.

Among those pupils who show high potential at primary school age, many do not fulfil that potential when they reach the GCSE exam years. 63% go on to complete three A Levels, 65% go on to attend university and 24% attend a Russell Group university. However, for those who experience disadvantage during secondary school, measured by eligibility for Free School Meals (FSM), 45% complete three A Levels, 53% go on to attend university and 15% attend a Russell Group university (Holt-White & Cullinane, 2023). The Education Policy Institute found that in 2022, disadvantaged primary school pupils were 4.8 months behind their more advantaged peers in their reception year, rising to 10.3 months behind at the end of KS2 and up to more than 18 months at KS4 (The Sutton Trust, 2024).



Why does this matter?

The Sutton Trust shows that the attainment gap is not an issue contained within KS4. How well pupils perform at school has a lasting effect on their future, influencing both their educational pathways and career prospects. Underachieving at Key Stage 4 can be the difference between progressing to A levels after age 16 or having that option closed off. For others, it may determine whether they can access top university courses or competitive apprenticeships. At every stage, lower attainment narrows opportunities and restricts access to further education and employment in a competitive landscape. For instance, research by the Institute for Fiscal Studies (IFS) showed that in 2019–20, over 70% of individuals earning more than £50,000 annually and 80% of those earning over £100,000 were university graduates, while nearly half of those earning £20,000 or less had qualifications at GCSE level or below (The Sutton Trust, 2024). Even more worrying is the outcome that those who do not perform well at GCSE or who do not obtain GCSE (or other vocational qualifications) at KS4 are more likely to end up as NEETs (not in education, employment, or training) (McCrone & Bamford, 2016). In 2025, there were 569,000 NEETs (ONS, 2025).

Why does this happen?

The reasons for these widening gaps are complex. Professor Johnes and his team (2018) found that, in their model, around half of the variation in schools' test performance could be explained by the percentage of students from disadvantaged homes. As soon as the proportion of disadvantaged students in a school passes through 20% – as it does in almost a half of all schools – the performance of students in that school declines sharply. A further fifth of the inter-school variation is due to students having special educational needs. Only a tiny fraction of the variation is due to school-related factors[1] – such as the number of computers per student, the number of staff per student, the size of the school, or school policies about communication with parents – or even government funding. Wider socioeconomic impacts are therefore clear (Johnes, 2018). Research by the Futures Leaders Trust found that the proportion of disadvantaged children getting five good GCSEs including English and mathematics falls by 1 percentage point for every kilometre a school is from its nearest neighbour. On average, in schools that were less than 1km from their nearest neighbouring school, 49 per cent of disadvantaged children gained five good GCSEs including English and mathematics. But in schools that were 5km or more from their nearest neighbour, only 37 per cent did. The impact of this geographical isolation could be that being far from cultural and employment opportunities created challenges for headteachers who were attempting to raise student aspirations (Ward, 2015).

What can be done?

The challenges remain persistent, and as discussed above, closing the attainment gap demands a complex, multi-dimensional response. A range of proposals have been put forward, many centred on funding, particularly how the Pupil Premium is calculated and allocated. Another key factor is childhood poverty: around 30% of children in the UK live in relative low-income households, and as the Sutton Trust notes, many educational barriers will remain unless this issue is addressed. While we acknowledge these broader systemic challenges, they fall beyond the scope of this publication, which focuses on educational solutions.

Our attention is therefore directed toward the recommendations made by the Education Endowment Foundation (EEF) in 2018, which emphasised that what happens in the classroom plays a more decisive role in closing the disadvantage gap than many other factors. High-quality teaching and purposeful lessons can significantly influence how well students, regardless of socioeconomic background, perform in exams. In recent years, the evidence base for effective teaching and learning has grown substantially, providing a range of evidence-informed classroom strategies proven to make a meaningful impact.

Our partnerships work has connected us with many secondary schools across England, mainly in areas of high disadvantage, and has led to in-depth conversations with colleagues in these schools about how they seek to address academic underperformance among disadvantaged pupils. We recognise that our areas of expertise do not speak directly to these problems: Eton is an academically selective school attended mostly by pupils from highly advantaged backgrounds (not exclusively: for example, in 2023-34, 18% received fee reductions and 99 boys paid nothing at all). Our experience lies in stretching the most able. For the past five years, around 92.7% of our pupils' GCSE grades have been at 7, 8, or 9s. Nevertheless, this experience might be relevant in two ways: first, underperformance does not just apply to pupils at the lower end of attainment. It applies also to pupils who are capable of the highest grades at GCSE but underperform, with detrimental consequences for their prospects post-16, in Higher Education, and in employment. Second, we have spoken to schools who have found that relentless attention to the quality of teaching and learning and on high academic aspirations has created a whole-school culture that has lifted standards among all pupils.

'What do you do at Eton?', 'What is your experience of teaching to the top?', 'What does a grade 9 look like in each subject?' and 'How do you help your pupils to achieve it?' are questions we are frequently asked.

Therefore, we see our contribution to the broader discussion around GCSE underperformance as sharing insights into how a teaching and learning culture that is designed to teach high aspirations can enable all students to reach their full potential. We also believe that if systemic changes can be made to raise aspirations, there may be a positive ripple effect that raises standards across entire schools. We are hopeful that sharing effective approaches to teaching and learning coupled with high aspirations can contribute to broader improvements in educational outcomes.

This issue has two sections: The first section features three articles: Leswell and Hughes present evidence-informed teaching and learning approaches to raising educational standards, while Cooper offers a case study of Dixons Trinity Academy and their strategy for raising student aspirations to improve GCSE performance. The second section focuses on subject-specific strategies aimed at increasing exam attainment. Most of these insights are drawn from interviews with Eton teachers, complemented by contributions from teachers at other high-performing schools. The articles explore a diverse range of subject-specific practices, including examples of classroom activities provided directly by teachers.

Below, we provide the evidence base for how some of the most common strategies discussed in the articles can be used in the classroom. It is important to recognise that effective teaching and learning strategies often transcend school contexts and student backgrounds. While structural barriers certainly exist, the evidence suggests that high-quality teaching can raise both aspirations and attainment regardless of setting.

[1]Excluding the quality of teaching and learning.

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10 PRINCIPLES FOR RAISING ATTAINMENT FOR ALL STUDENTS

Before we explore the principles in depth, it's important to highlight two key preconditions: First, that teachers actively seek out opportunities to go beyond the constraints of the exam syllabus—creating space for deeper, richer learning. Second, that these strategies are applied consistently across the school, not reserved solely for students identified as 'more able,' but offered to all learners.

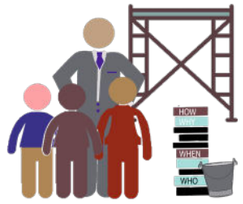
1. Raise aspirations

- **Develop confidence and self-efficacy:** Help students believe that success is possible for them regardless of their background or previous experiences.
- **Guidance on skills needed:** Don't assume students know how to succeed - explicitly teach the learning strategies, planning techniques, and habits of high performers, such as planning, revision, note-taking, time management, and resilience. Model these skills often and revisit them regularly.
- **Opportunities to expand horizons:** Expose students to new ideas, experiences, and futures they may not have considered. Broaden their sense of what's possible. This might include university visits, mentoring schemes, guest speakers, enrichment projects, or using challenging, high-quality texts.

2. Professional development

- **Driven by evidence and focused on impact:** Professional development should be grounded in robust research and evidence and aimed at improving and evaluating pupil outcomes.
- **Collaborative and sustained:** CPD should be ongoing and shared, encouraging teachers to plan together, reflect together, and learn from each other over time. One-off sessions don't change practice; consistent collaboration does. Encourage initiatives such as peer learning, lesson study, or learning triads.
- **Supported by leadership and whole-school culture:** For professional growth to thrive, school leaders must prioritise it: allocating time, resources, and recognition. Wherever possible provide incentives such as a reduced timetable, or a relevant title.

3. Scaffolding

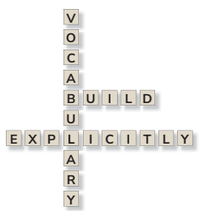


- **Start with what students know:** Begin by assessing prior knowledge. This can be done with a quick quiz at the beginning of the lesson, exit tickets, think pair share activities, or self-marked tests.
- **Address misconceptions:** Address misconceptions at the start. This ensures new learning builds on a solid foundation and avoids confusion from the outset. This can be done through worked examples, having 'banks' of misconceptions that you bring up, or targeted feedback.
- **Model and guide thinking:** Use clear, structured modelling to show students how to approach complex tasks. Think aloud, break down steps, and provide frameworks that students can rely on. However, don't use scaffolding as a way of doing the thinking for students. They need to have opportunities to struggle and figure things out themselves.
- **Support strategically, then step back:** Offer support where it's needed, monitor progress closely, but avoid over-scaffolding. The aim is always to reduce support over time, empowering students to take ownership of their learning. This requires a good knowledge of individual students, something which can be achieved through regular formative assessment.

4. Ambitious curriculum

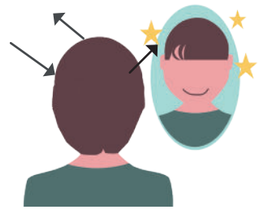
- **Prioritise intellectual challenge:** Build a curriculum that stretches reasoning, analysis, and creativity, not just recall. Design lessons that go beyond the surface and promote depth over speed. Do not underestimate the ability of students to tackle the more challenging content.
- **Connect learning to the real world:** Make the curriculum and lessons matter by linking them to current issues, future careers, or global challenges. Relevance boosts engagement and shows students the purpose behind their learning.
- **Teach Threshold Concepts:** Focus on the transformative ideas in your subject, the ones that shift understanding and unlock the subject for students. These require time, exploration, and careful unpicking to really take hold, but they are worth it.
- **Introduce Desirable Difficulties:** Use purposeful struggle to promote retention and mastery. Strategies like interleaving, retrieval, and varied practice may feel harder, but lead to deeper, longer-lasting learning.

5. Vocabulary



- **Focus on expansive vocabulary in every lesson:** Plan for explicit vocabulary instruction across all subjects, not as an add-on, but embedded in the core of the lesson. Prioritise words that stretch understanding and unlock subject knowledge. Give students structured opportunities to use new vocabulary aloud, through discussion, debate, presentations, and questioning.
- **Build confidence and encourage risk-taking:** Celebrate students' attempts to use ambitious language, even if imperfect. Create a safe classroom culture where going "off-piste" with vocabulary through experimenting, adapting, exploring is normalised.
- **Teach Tier 2 and Tier 3 vocabulary explicitly:** Distinguish between Tier 2 words (academic but cross-disciplinary, like justify, evaluate) and Tier 3 words (subject-specific, like photosynthesis, iambic pentameter). Teach both intentionally to close the language gap.

6. Metacognition



- **Develop reflective learners who act on feedback:** Teach students to pause and reflect on what they've learned, what they're struggling with, and how they can improve. Build regular routines for self-evaluation; then go further by showing them how to respond to feedback meaningfully through editing, redrafting, or action planning.
- **Support goal-setting:** Encourage students to set clear learning goals and plan how to reach them. Equip them with tools to monitor their progress, evaluate outcomes, and adjust strategies along the way. Allow time for this to happen during lessons to show the importance of it.
- **Model metacognition - including your own mistakes:** Make your own thinking visible. Talk through how you approach a complex task, what you do when you're stuck, and how you've learned from past failures. This kind of modelling helps students internalise the habits of resilient, reflective learners.

7. Back to basics

- **Exam technique:** High challenge includes exam literacy, since we cannot assume that students know how to tackle exams. Teach students how to read and break down command words, allocate time per question, and structure their responses clearly. Revisit these basics regularly to reduce stress and increase clarity under pressure.
- **Teach how to select and prioritise information:** Help students identify which points are most relevant, precise, and persuasive. Practise sorting useful vs. unnecessary content and building concise, well-developed answers from strong evidence or examples.
- **Embed effective revision techniques:** Model and encourage revision strategies that work: retrieval practice, spaced repetition, flashcards, self-quizzing, past papers.

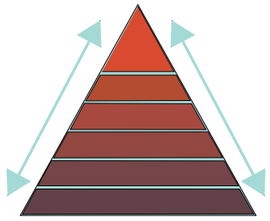
8. Subject expertise

- **Strong subject knowledge:** Secure subject expertise enables teachers to explain complex ideas with clarity and accuracy. When combined with genuine passion, it inspires curiosity, encourages deeper questioning, and builds a classroom culture of exploration.
- **Go beyond the syllabus to build cultural capital:** Use opportunities to extend beyond exam specifications - introduce students to big ideas, important texts, and cultural references that broaden their understanding. Invite external speakers, encourage wide reading, and design activities which ask students to explore the subject beyond the exam specification.
- **Incorporate research-based activities and thinking:** Expose students to academic research, theories, or real-world case studies within your subject. Ask them to evaluate, critique, or apply findings helping them develop analytical skills and see themselves as emerging subject thinkers.

9. Purposeful lessons

- **Start with clear, ambitious objectives:** Every lesson should have focused, well-communicated learning goals that link to prior knowledge and future learning.
- **Maintain focus and momentum:** Plan activities with clear timings in mind to ensure an appropriate pace. Use of timers can be powerful tools for managing transitions, keeping tasks purposeful, and training students to think and work under pressure, skills essential for exams and life.
- **Design for deliberate practice:** Rather than simply completing tasks, students should engage in repeated, focused practice that targets specific skills. Build in time for refinement, correction, and stretching beyond the first attempt to develop mastery

10. Questioning



- **Go beyond recall to promote analysis and evaluation:** Avoid limiting questions to basic facts. Instead, regularly pose questions that require comparison, justification, inference, or evaluation.
- **Encourage extended and thoughtful responses:** Give students the time and tools to develop fuller answers. Use strategies like wait time, follow-up prompts, or sentence stems to support structured, developed thinking, and model this process yourself.
- **Foster critical thinking for the future:** Equip students with the reasoning and problem-solving skills that machines can't replicate. Ask them to critique sources, identify bias, explore multiple perspectives, or imagine consequences. These habits are vital in a world shaped by artificial intelligence and complexity.

WHEN DIFFICULTY ISN'T DESIRABLE: IDENTIFYING ACCIDENTAL CHALLENGE IN THE CLASSROOM

MARK LESWELL | RESEARCH LEAD, SWALE ACADEMIES TRUST

As educators, we often celebrate the value of challenge in learning. We've embraced Bjork's concept of 'desirable difficulties' and understand that certain forms of struggle can enhance long-term retention and transfer. However, not all difficulties are desirable, and many well-intentioned teaching practices inadvertently create what might be termed 'accidental challenge' - cognitive obstacles that impede rather than enhance learning. This article explores how to identify and address these counterproductive forms of difficulty in the classroom.

Distinguishing Productive from Counterproductive Challenge

The distinction between productive cognitive challenge and counterproductive difficulty lies at the heart of effective teaching. Soderstrom and Bjork (2015) state learning activities that introduce certain difficulties during practice can improve long-term retention, but only when these challenges are 'desirable' rather than random or meaningless.

Cognitive Load Theory (CLT) helps us understand this distinction by categorising three types of mental burden: intrinsic load (the inherent complexity of material), extraneous load (unnecessary cognitive burdens imposed by poor task design), and germane load (productive cognitive processing that contributes to learning).

Productive challenge engages pupils' thinking while staying within working memory limits. Examples include comparing simultaneously visible concepts, applying known principles to novel situations with reference materials available, and explaining reasoning using external supports. These activities create germane cognitive load - the type of mental processing that contributes directly to learning.

Counterproductive difficulty, by contrast, overwhelms working memory and creates barriers to learning. The goal of effective teaching is to manage intrinsic load, minimise extraneous load, and maximise germane load. When we fail to manage these elements properly, we create accidental challenge.

Recognising Memory Overload

One key form of accidental challenge is memory overload. Cowan (2010) notes that most adults can only hold around 4 chunks of information in working memory, with primary pupils managing only 2-3 chunks simultaneously. When tasks exceed these limits, learning likely suffers.

Gathercole and Alloway (2007) identify several indicators of memory overload:

- Pupils forgetting crucial parts of instructions
- Losing track in multi-step tasks (e.g., skipping words when copying from the board)
- Abandoning tasks despite adequate skill and motivation
- Appearing inattentive when actually struggling with memory demands

These signs distinguish memory overload from productive struggle. While productive challenge engages pupils within their cognitive capacity, memory overload exceeds that capacity, creating frustration rather than learning.

The Split-Attention Effect: Challenge in Disguise

Perhaps the most common form of accidental challenge in classrooms is the split-attention effect. When information is presented across multiple sources, learners must mentally integrate it, placing unnecessary demands on working memory and reducing learning efficiency (Sweller et al., 2011).

Consider these common scenarios:

- Text and accompanying diagrams are shown on different pages
- Instructions are placed away from the materials they refer to
- Questions appear separately from the related texts
- Visuals and their explanations are positioned far apart

These situations create what might appear to be 'challenge' but is actually extraneous cognitive load that may impede rather than enhance learning. The task becomes more difficult, certainly, but in ways that divert cognitive resources away from the intended learning.

For example, when teaching chemical bonding, providing molecular diagrams on one page and explanations of bond types on another requires pupils to continually shift attention between the two. Research suggests that an integrated approach with explanatory labels positioned directly alongside each bond type leads to better retention because it eliminates the extraneous task of mental integration (Sweller et al., 2011). Pupils can focus on understanding the relationship between molecular structure and bond properties rather than expending cognitive resources on simply connecting disparate pieces of information.
De Koning (2024) highlights however that integrating cognitive and physical strategies, such as annotation, may lessen the cognitive load caused by dispersed information.

The Redundancy Trap

Another form of accidental challenge occurs through redundancy - presenting the same information in multiple formats simultaneously. Kalyuga and Sweller (2014) demonstrate that this creates extraneous cognitive load rather than reinforcement.

Trypke et al. (2024) distinguish between 'codal redundancy' (identical information in different modalities, such as reading text aloud whilst students simultaneously read the same text) and 'modal redundancy' (complementary information in the same modality, e.g., images with explanatory text). Modal redundancy can facilitate learning, while codal redundancy typically hinders it.

Common redundancy scenarios in classrooms include:

- Reciting slide content word-for-word to the class
- Including large blocks of text next to diagrams that are already clear on their own
- Delivering the same information through different formats at the same time.

What makes this particularly challenging for teachers is that what constitutes redundant information varies with learner expertise. Detailed explanations essential for novices become redundant for experts, leading to the expertise reversal effect.

The Expertise Mismatch

Optimal challenge must align with learners' prior knowledge. Teaching approaches that benefit novices often become ineffective or counterproductive for experts, known as the expertise reversal effect. For instance, worked examples help beginners but can hinder advanced learners who learn better through independent problem-solving.

Tetzlaff et al.'s (2025) meta-analysis of 60 studies supports the finding that learners with limited prior knowledge gain more from high-support instruction (effect size d = 0.5), whereas those with greater knowledge tend to do better with less support (d = -0.4). However, when unsure, perhaps teachers should err on the side of offering support rather than withholding it.

Evidence-Informed Strategies

Principle	Strategies
Addressing Split-Attention Effects	• Position explanatory text directly within diagrams • Keep related information physically integrated • When information must be separated, teach annotation strategies
Reducing the Redundancy Effect	• Present complementary information through verbal and visual channels • Avoid redundant text/speech combinations • Utilise the distinct processing capabilities of different modalities
Providing Cognitive Offloading Tools	• Offer knowledge organisers during complex tasks • Create graphic organisers and note-taking templates • Reduce working memory demands whilst maintaining conceptual challenge
Tailoring Challenge to Expertise	• Provide worked examples for novices, problem-solving for experts • Gradually fade scaffolds as expertise develops • Monitor for signs of unnecessary support creating boredom in more knowledgeable pupils

Monitoring Challenge Effectiveness

Effective teaching requires ongoing assessment of whether challenge is productive or accidental. Consider these monitoring strategies:

1. Watch for memory overload signals (forgotten instructions, task abandonment, skipping steps)
2. Aim for approximately 80% success rate during practice (Rosenshine, 2012)
3. Insert brief reflection moments during complex tasks to support working memory recovery (Ouwehand et al., 2025)
4. Use think-aloud techniques to model productive struggle

Conclusion

Effective teaching distinguishes productive challenge from accidental difficulty. Rather than eliminating struggle, we must ensure it serves learning by aligning with objectives, calibrating to expertise, and respecting cognitive limits. By addressing split-attention effects and redundancy whilst monitoring for overload, teachers transform frustrating obstacles into meaningful cognitive development.

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TEACHING TO THE TOP: STRETCHING AND CHALLENGING ALL LEARNERS

PROFESSOR HAILI HUGHES | PROFESSOR OF TEACHER COACHING AND MENTORING, ACADEMICA UNIVERSITY OF APPLIED SCIENCES & DIRECTOR OF PROFESSIONAL DEVELOPMENT, ALL SAINTS MAT

In an era of rising accountability and academic expectations, the challenge for teachers is to ensure that every pupil is stretched to meet their full potential, regardless of prior attainment. The concept of 'teaching to the top' provides a compelling alternative to traditional differentiation models. Instead of lowering expectations for some learners, it insists that all students access high-level content, with scaffolds provided to support them in reaching it.

What is Teaching to the Top?

Teaching to the top is defined as consistently teaching higher-level ideas and knowledge and making this accessible to all students in our classes (Mansworth, 2021). Rather than teaching to the 'middle' or 'bottom' and adding challenge as an afterthought, teachers plan from the outset with the most able students in mind. This prevents the boredom and disengagement often felt by the highest attainers and creates an inclusive environment where every student aspires upward.

Research confirms the importance of high expectations for all. Reynolds (2007) showed that high-performing systems adopt uncompromising expectations. Rubie-Davies (2008) found that students internalise their teachers' expectations, impacting achievement. Classrooms characterised by high expectations have also been shown to be more caring and feedback-rich (Rubie-Davies & Peterson, 2011). Why is this?

High expectations = caring

When teachers hold high expectations for all students, they communicate a fundamental belief in each student's capacity to succeed. This links to the seminal research known as the Pygmalion Effect, described by Rosenthal et al. (1968). This research reveals that when teachers believe students are capable of high achievement, they subtly offer more opportunities, time and challenge. This shifts the teacher-student relationship from one of deficit thinking, to one of possibility and growth. Students are then more likely to feel valued and supported, which in turn fosters a more caring classroom climate.

Caring is an action - not just an attitude

Rubie-Davies & Peterson (2011) emphasise that caring teachers actively seek to help students meet high standards. This often manifests as more detailed feedback, targeted questioning, follow-up checks for understanding and a willingness to provide extra help and resources. Rather than simply expecting students to meet a bar on their own, teachers actively guide them toward success. In this way, high expectations drive caring interactions, and increased feedback is essential for teaching to the top. As is checking for understanding – which may be the most impactful tool a teacher has.

Checking for understanding is essential for teaching to the top

When teaching to the top, the teacher deliberately plans high-level content for all learners, with scaffolds to enable access. However, without checking for understanding, it is impossible to know whether all students have grasped the foundational concepts needed to engage with complex ideas. Checking prevents students from becoming quietly lost and disengaged, as the cognitive demands increase. As Dylan Wiliam (2018) argues, formative assessment - which includes checking for understanding, helps teachers adjust teaching in real time. Teachers can re-teach, clarify, or stretch students based on their responses. This dynamic adaptation is vital for teaching to the top, as it ensures all students are supported to access high challenge rather than only the highest attainers.

In addition, when teachers regularly check for understanding, it sends a message that every student is expected to contribute and succeed. This aligns with further research by Rubie-Davies (2008) showing that classrooms with high expectations tend to involve more interactive questioning and formative checks, which create a culture of care and high challenge.

Barack Rosenshine's (2012) principles of instruction also position checking for understanding as one of the most critical components of effective teaching. He advocates a direct instruction approach where:

- teachers present small amounts of new material
- students practise and respond
- teachers checks for understanding before moving on

This cyclical process ensures mastery of knowledge before cognitive load increases. It also avoids the illusion of learning, when teachers can mistakenly assume learning has occurred simply because content has been covered, which is a risk when attempting high-challenge teaching without sufficient scaffolding. Regular checks for understanding expose misconceptions early and prevent this (Bjork & Bjork, 1992). We should of course be challenging students by giving them the opportunity to think critically about subjects. Isn't this the opposite to direct instruction? Only if teachers have fundamentally misunderstood what direct instruction actually means.

The misunderstanding: direct instruction = lecture

Many teachers mistakenly equate direct instruction (DI) with teacher-centred lecturing, where the teacher talks and students passively listen for extended periods. This misunderstanding likely stems from the term 'direct' itself, which sounds like it means the teacher talks and students listen, painting the visual assumption that a teacher stands at the front of a classroom simply 'delivering' content to a passive, bored student.

Yet, in research from Engelmann & Camine (1982), DI is a highly structured, interactive and responsive teaching model – perfect for teaching to the top. DI is high participation, with frequent questions and checking for understanding, which gives teachers the opportunity to be responsive and really stretch all students. Indeed, Rosenshine himself warned against a teacher over-talking and stressed the importance of keeping teacher explanations short, focused and punctuated by student activities and checks for understanding. Sadly, this misconception can lead schools or policymakers to dismiss DI as old-fashioned or unsuitable for inclusive, high-challenge classrooms. In reality, the evidence base for DI is strong, especially for improving outcomes in disadvantaged settings (Stockard et al., 2018). Without these systematic checks for understanding alongside direct instruction, teaching to the top risks becoming aspirational but inaccessible. With them, it becomes a powerful model of equity and excellence.

What are some strategies for teaching to the top?

Building deep subject knowledge

Coe et al. (2014) showed that teachers' depth of subject knowledge is the single most important factor affecting student outcomes. Therefore, teachers need to continually audit and enhance their expertise, working collaboratively within departments to share specialisms. The most impactful subject CPD is internal and self-sustaining. Departments are treasure-troves of expertise, so rather than parachuting in experts, collaborate and learn from one another.

Design challenging curricula

Howard and Hill (2020) argue that curriculum is education. It must be ambitious, coherent and prepare students for future learning. So, teachers must consciously shape learning sequences, so students acquire the background knowledge (schema) to grasp abstract concepts (Rosch, 1977; Anderson, 1978). In English for example, if the first-time students are learning about the concept of a tragic hero is in year 10 while studying Macbeth, we risk them not having a secure understanding of this critical concept and consequently a shallow interpretation of Shakespeare's authorial intent. As Amanda Spielman (2017) warns, diluted curricula deny disadvantaged students the knowledge they need to succeed beyond school. For our most disadvantaged students this could be disastrous. Dr Carl Hendrick often quips that you cannot join the dots if you can't see them. Therefore, as those with the power to design curricula, teachers need to ask themselves where else our students might be introduced to the essential threads of our subject. If not us, who? If not now, when?

Thinking hard and metacognitive approaches

Teaching to the top also means embedding thinking routines that encourage students to think deeply. Giving students the opportunity to experience these 'desirable difficulties' (Bjork & Bjork, 1992), where struggle leads to deeper long-term learning, is key. Questioning strategies from *Teach Like a Champion* (2015) such as 'No Opt Out', 'Right is Right', and 'Stretch It' also encourage teachers to challenge students' initial responses and probe for deeper understanding.

Reducing risk of over-differentiation

Differentiation by outcome or task can entrench the attainment gap (Wiliam, 2018). Instead, adaptive teaching which includes setting the same high goals for all, offering additional scaffolding where necessary and fading support as competence grows is much more impactful. Yet, that removal of the scaffolding is crucial. As Fairball and Lamb (2025) state, scaffolding that is never removed is not scaffolding, it is just planning.

When done effectively, teaching to the top leads to measurable benefits, which include increased student engagement and interest, higher attainment and improved learning skills and a shift from passive receipt of knowledge to proactive inquiry. Despite the proven effectiveness, many teachers do not consistently teach to the top. Common barriers include time constraints, low student confidence and the pressure of high-stakes testing (Hughes, 2021). Teachers must reflect on their curriculum design, lesson planning and questioning techniques to embed challenge throughout their practice

'Teaching to the top' is not just a strategy but a belief system: every student deserves to access an ambitious curriculum that inspires, stretches and prepares them for life beyond school. The teacher's role is to unlock this potential by championing challenge as the norm and not an exception.

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THE INCONVENIENT PUNCHLINE: WHY GRADE 9 STARTS WITH CULTURE, NOT INTERVENTIONS

TAMZIN COOPER | HEAD OF SCHOOL, DIXONS TRINITY ACADEMY

How to achieve a grade 9? Since the introduction of the numerical grading system, students and teachers have wished for that elusive number every August. Higher than an A*. The top 5%. Across the country, schools implement last-minute masterclasses 'aiming for a grade 9', print a final flurry of grade 9 exemplars or invest in expensive interventions aimed at the 'lucky few'. At Dixons Trinity Academy in Bradford, a mainstream school serving students in an area of high deprivation, we have consistently delivered the highest grades for our students – outperforming even selective schools in the area.

Any English teacher will tell you that excellent essay writing relies on a clear thread of coherence, an argument that holds steady from introduction to conclusion, carrying the reader all the way through. Any comedian will tell you the same: you can take an audience astonishingly far from your starting point, explore tangents, push boundaries, but only if there's a thread strong enough to keep them with you until the punchline snaps everything back into place with sudden, satisfying logic.

In education, our 'punchline' isn't a joke, it's the moment students achieve beyond what society thought possible for them. Like the best essays and the best comedy, it's the coherence of the journey that makes this achievement both believable and inevitable. For us, the thread that connects this journey, the thread that leads to grade 9s, is our relentless challenge to educational and social disadvantage. Following that thread will take us through bias, curriculum, and some inconvenient truths. It won't be funny, but it will be coherent. And it will be powerful.

Firstly, teachers must believe that their students are capable of achieving grade 9s. The simplicity of this statement belies the intangibility of bias, the invisibility of lived experience, and the myriad of differing perspectives a single teacher can hold - never mind how these may manifest across the staffing body of an institution. The students at Dixons Trinity Academy face not only the insidious disadvantage of poverty, but many also endure the intersectionality of multiple protected characteristics and the limiting societal perceptions of their potential as learners.

So often, adults insist they have high expectations of their students while simultaneously narrowing their design of what students can learn. Assumptions are made about what children will 'engage with' or be capable of understanding, about what is necessary and what is not. Exam rubrics create artificial frameworks that limit our curriculum designs, and national frameworks provide only the minimum thresholds for children's capabilities year on year. Learning in service of learning more must be at the heart of any ambitious curriculum. And, critically, this must start in Year 7 and be maintained throughout their time with us. Learning is understood to mean being able to retain and deploy knowledge for a greater purpose. We want this for all our children, not just the chosen few.

These rich digressions matter. A subject expert might pause to ask, "Why is it spelled 'playwright' anyway'?" This etymological curiosity isn't trivial, it reveals something about what it means to be a maker of drama, and it opens doors to a deeper understanding of language and authorship. It is precisely this difficulty, this intellectual richness, that students are drawn to, not just those considered academically able or socially suitable. At Dixons, we believe mastery attracts because it alludes. Students enjoy what they perceive to be challenging, and we are relentless in maintaining high expectations for all.

But here lies the inconvenient punchline: all of this - depth, nuance, high challenge - can be present in classroom teaching, yet without an ambitious whole-school culture, it will be squandered. A curriculum can only truly flourish within a school environment where the culture actively supports and sustains it. At Dixons Trinity Academy, we have gained international attention for our deliberate approach to shaping school culture and influencing student social norms. Our work is driven by the principles of mastery, autonomy, and purpose, inspired by Dan Pink's research on self-determination, who was in turn influenced by psychologists Ryan and Deci. We weave these drivers intentionally through every aspect of our school life.

This work is demanding, often thankless, and sometimes feels Sisyphean. Whole-school culture is difficult to build and easy to erode, but for any school leader who hopes to genuinely influence how many grade 9s their students achieve, this is where the work must begin.

Educating all children is genuinely complex. That complexity is rarely about how children learn, it is about the realities they bring with them into the classroom. Hunger, sadness, and pain may sit quietly alongside them as they try to engage with our lessons. These barriers are as obstructive to learning as anything within our direct educational control, yet they are harder for us to fix permanently.

At Dixons, our mission is to challenge educational and social disadvantage in the North. We embrace our role within the wider ecosystem, willing to go upstream as an anchor institution. Our core contribution to this mission is ensuring our children make accelerated progress and leave us with as many open pathways as possible. We know who we are. Our families know who we are. And, most importantly, our children can choose who they will become.

This is our focus: to build a culture and a curriculum intentionally designed for learning. When we get this right, results, outcomes, and progress become the natural by-products.

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INTERVIEW WITH DR ANNA CAMILLERI | HEAD OF ENGLISH, ETON COLLEGE

In English, we aim not just to meet GCSE expectations but to exceed them. From Year 9, students are exposed to a wide range of literature, novels, poetry, and Shakespeare, that extends well beyond what is formally assessed. This early and sustained exposure helps embed foundational critical skills such as close reading, inference, and analysis of tone and form.

Much of what we teach is deliberately off-syllabus, designed to foster curiosity and intellectual risk-taking. Our students study texts for their literary value, not just their exam relevance. This approach leads to greater engagement, more sophisticated writing, and stronger performance in unseen assessments. As we encourage students to draw connections across genres, they learn to think independently and to pursue ideas beyond the exam rubric. This helps cultivate a more enduring appreciation of literature.

A culture of collaboration underpins everything we do. Regular professional development meetings bring together colleagues to reflect on practice, share resources, and engage deeply with the texts we teach. Whether it's analysing a poem together or reviewing student essays, these sessions keep us sharp and focused. For example, we run weekly tutorials on poem analysis. Through collegial discussion we can elevate one's own reading of a poem and discover connections that were not previously obvious.

Our department thrives on open conversation. Informal discussions around the coffee machine are as valuable as formal training sessions. An open-door policy and frequent lesson observations (typically four per term) help build a shared understanding of excellence and foster a collective commitment to improvement. We also have 10–20 visitors from other schools each year and are regularly asked to articulate and evaluate our own practices; this in itself can be an invaluable exercise in professional reflection.

The success in English is not dependent on expensive resources or frequent trips (we take just one per year). Instead, it's the shared expertise and professional generosity of the team that matter most. We write our own resources, eschewing commercial guides in favour of tailored materials that suit our students' needs. Our well-stocked library provides essential enrichment, while streaming, which can be rare in English, allows us to support and stretch simultaneously. Teachers can differentiate meaningfully, choosing texts and planning schemes of work according to the division in front of them. This flexibility also lets us preserve a sense of freedom: to teach Shakespeare in full as drama over two terms, to focus on story and character before unpacking language, to make space for slow, detailed close reading. In Year 9, we lay the groundwork for analysis by spending significant time on prose and poetry alike, often 300 minutes on a single poem, building confidence through depth rather than speed.

We have consciously moved away from rigid schemes of work. Our curriculum is open, allowing teachers to design bespoke lessons that suit the specific needs and strengths of their classes. We don't assign a single GCSE novel across the year group; instead, we select texts that allow for differentiation and meaningful stretch. This high level of autonomy brings with it a high level of responsibility. Teachers are expected to know their students exceptionally well and to build lessons accordingly. By focusing on concepts like genre, structure, and voice from the beginning, and encouraging small-group discussions that prioritise student thought, we create classrooms where pupils are confident expressing their ideas and responding critically.

Writing is also central to our teaching. Students begin essay writing early, with a strong focus on formative practice in Years 9 and 10. They also engage in creative writing, both through departmental awards and via internal and external prizes. This enables students to develop their own voice when writing.

While our students perform strongly in literature, language results tend to be lower, not because of lower expectations, but due to the structural limitations of the paper and the different skill sets it demands. The language exam is dense and time-pressured, with a large number of questions to answer in a short space of time. It doesn't always align with our pupils' strengths; our boys tend to be imaginative and conceptually curious, performing better in creative tasks. Unlike the literature papers, which follow a consistent mark scheme and structure, the language paper can feel less predictable, requiring a different form of exam literacy.

In order to prepare students for exams, we have a rigorous formative assessment schedule, called trials. Pupils typically complete five formal assessments under exam conditions before the real thing, which is far beyond the usual mocks that happen in other schools. These assessments are whole-school events, moderated to ensure consistency and high standards. This instils in students a sense of urgency when it comes to revising and being ready for exams.

ENGLISH

BUILDING CONFIDENCE AND FLAIR

JONNIE NOAKES | ENGLISH TEACHER & DIRECTOR OF CIRL, ETON COLLEGE

Dr Camilleri notes the intellectual curiosity and imaginative flair in our pupils that are part of the reason for their success. Underpinning these abilities is a more prosaic quality: a pragmatism in understanding exactly how to succeed in examinations. They want to know in precise detail what is rewarded in each examination and the common pitfalls to avoid.

The skills required for top-Level success are clearly defined by the awarding bodies. Examiners' feedback on the performance of past cohorts offers further useful comments and tips. Whenever a pupil underperforms, we get a copy of the papers back and analyse how it was marked. This is part of an ongoing process of making sure that we fine tune our understanding of what is rewarded that we can pass on to the pupils in the form of a detailed resource, created by us to suit their needs.

We also make our pupils aware as we prepare them for examinations of the awarding body's mark schemes and Level descriptors, and we sometimes require them to assess their own work against these descriptors prior to submission so that they begin to view their essays with a critical examiner's eye. Where mark schemes are generic (as they are across the genres of poetry, prose and drama in this English Literature specification), pupils also need to understand how these generic schemes are applied with different emphases across different questions. Here, it is helpful to have knowledge beyond the awarding body's published specification, for example by having a member of the department who is an examiner for that specification. As part of their training examiners achieve a nuanced understanding of how the mark schemes are applied, and sometimes a small hint can make a significant difference. For example, reference to how a dramatist achieves effects must address stagecraft, even though that is not mentioned in the mark scheme, or the mark awarded will be significantly lower.

In the CIE English Literature IGCSE specification that we follow, we analyse with the pupils how they can achieve Levels 7 and 8, how these Levels are differentiated from each other, and how they are differentiated from the Level below (see Table a). For example, showing a 'clear understanding of the text' is a Level 6 descriptor; to rise to Level 7, a 'clear critical understanding' must be shown, meaning an ability to appreciate how a writer has achieved the effects under discussion through forensic analysis of words, images and aspects of form. At Level 8, this understanding must be sustained, showing 'individuality and insight', which suggests an ability to move beyond well-rehearsed ideas to a more personal, even unexpected response that is characterised by 'evaluative engagement'. In the highest-Level descriptors, the qualities of sensitivity to how writers achieve effects and flair in how textual references and quotations are used are introduced. While 'sensitivity' and 'flair' sound vague, they are easy to recognise. One of the most effective ways to teach flair is to show models of it, and the use of high-Level exemplars helps pupils to understand what these qualities look like in the context of an English Literature response – an essential step towards emulating them.

Table a. CIE IGCSE English Literature (0992) descriptors for individual questions. The Levels are not directly equivalent to final grades but there is a general correlation: Level 8 is equivalent to high A* (Grade 9), Level 7 to A-A* (Grade 7-8) and Level 6 to B-A (Grade 6-7). a

LEVEL 8	23 24 25	• demonstrates knowledge by incorporating well-selected reference to the text skilfully and with flair (A01) • sustains a critical understanding of the text showing individuality and insight (A02)responds sensitively and in considerable detail to the way the writer achieves his/her effects (A03) • sustains personal and evaluative engagement with task and text (A04)
LEVEL 7	20 21 22	• demonstrates knowledge by integrating much well-selected reference to the text (A01) • shows a clear critical understanding of the text (A02) • responds sensitively and in detail to the way the writer achieves his/her effects (A03) • sustains perceptive, convincing and relevant personal response (A04)
LEVEL 6	17 18 19	• demonstrates knowledge by supporting with careful and relevant reference to the text (A01) • shows a clear understanding of the text and some of its deeper implications (A02) • makes a developed response to the way the writer achieves his/her effects (A03) • makes a well-developed, detailed and relevant personal response (A04)

More complex skills can be broken down into the constituent steps that the pupils practise in focused ways, receiving regular feedback. This gives them a sense of progress without overloading them cognitively. Modelling, scaffolding, spaced repetition, analysing exemplars, and self-marking are all techniques for which there is a strong evidence base. None of these is specific to Eton, of course: they are standard pedagogical tools.

Teaching pupils to understand *how* language can create powerful effects without destroying their appreciation of it by 'unweaving the rainbow' (to steal Keats' image) is not easy. One effective way to do this is to teach the 'threshold concepts' that give the study of English language and literature its intellectual coherence. Threshold concepts are the ideas in any subject that pupils need to master to make leaps in their understanding: they are the ideas they need to *think with* in that subject.

In English Literature, the threshold concepts that pupils need to understand to access literature at the highest levels at GCSE are as follows:

- All literature is crafted deliberately for effect; studying story for example means appreciating how plot, narrative technique, character, thought, action and dialogue are crafted intentionally to affect readers in specific ways.
- Literature is mimetic of real life but not real, and it is governed by its own rules (of genre, for example) that frame our interpretations of it.
- Literature has its own kind of 'truth' that allows us to 'know' things in the real world, not just by revealing them but also by affecting how we see them.
- We respond to narratives at an emotional level as well as an intellectual one, so a full response requires a combination of empathy and detachment.
- All literature is about meaning (even literature about meaninglessness) and carries an evaluative charge, which might also be an ethical or moral charge; and we as readers create this as much as we receive it.

Exploring these threshold concepts is a powerful way to develop in the pupils an insightful 'critical understanding' of a text, a sensitive response to 'the way the writer achieves his/her effects', and a 'personal and evaluative engagement' with task and text.

From the moment our pupils arrive in Year 9, we focus on independent reading, critical analysis, quality of expression (both written and oral), and vocabulary building for precision and range of expression. This grounding contributes to their ability to write with flair, gauge register, embed quotations seamlessly into their prose, and comment precisely on the effects of language, imagery, form, and structure.

The signature teaching technique we use in English throughout the year groups is guided structured discussion, in which we model clear critical thinking for the pupils and consistently require them to engage and respond, with follow-up dialogic questions that deepen their thinking. We might require them to clarify and develop what they mean ('Why do you think that?' 'Show me using an example.' 'Can you rephrase that more precisely?' 'Can you explain that in more depth?'); consider multiple viewpoints ('What else might be true?' 'What examples can you think of that would require you to nuance or counter that statement?'); consider implications ('If that's true, what does that imply about…?' 'Why is that important?'); and examine their own habits of thought ('Where do you infer that from?' 'What assumptions have you just made that led to that conclusion?', 'Talk me through your thinking processes.'). Essentially, we are encouraging deep and disciplined thinking.

Visitors often comment on the pupils' confidence in sustaining an intellectually demanding discussion. They also note that you rarely see a worksheet. The teacher weaves these techniques into what feels like a dynamic dialogue. Pupils are not just 'doing English'; they are playing with ideas and language and learning how to think. That breeds the confidence and flair that is rewarded at the top Levels.

THE VALUE OF TEACHING ACADEMIC WRITING IN A KNOWLEDGE-RICH CURRICULUM

SUKH SUNNER | HEAD OF ENGLISH, HOLYPORT COLLEGE

A ‘knowledge rich’ curriculum is ambitious, inclusive and empowering; it prioritises the disciplinary knowledge required to master a topic and when sequenced intentionally in tandem with skills can enhance student learning experiences.

As Oates (2024) puts it, ‘The most persistent false opposition in our educational discourse remains knowledge versus skills.’ This ‘false opposition’ extends to the study of literature whereby a disproportionate amount of curriculum time is afforded to knowledge resulting in the narrowing of time investing in teaching academic writing.

Academic writing typically demonstrates ‘evidence of learning’ allowing a ‘review of a subject with a sense of sceptical enquiry’ which ‘considers a subject in its different aspects, relations and implications’ (Royal Literary Fund). Adding to the ongoing discussion about the relationship between knowledge and skill, the RFL further asserts that ‘academic writing locates itself within an existing body of knowledge. Any new piece of writing is a development and an extension of what has already been’. Therefore, teaching to the top requires an understanding of the symbiotic relationship between disciplinary knowledge and the skill of academic writing; both are integral to students' mastery and attainment.

In practice, students need to be explicitly taught the structures that underpin effective essay writing: constructing an overarching argument, crafting topic sentences that address multiple assessment objectives simultaneously, or the nominalisation of adjectives and verbs for fluency. A truly ‘knowledge rich’ sequence should balance both the ‘invaluable knowledge’ (Ofsted) of a topic/text with the disciplinary knowledge and skill of academic writing.

At Holyport College, whilst high prior attainers may master the ‘powerful knowledge’ (Young and Muller, 2013) of *Macbeth*, they can be restricted by the quality of academic expression. Recognising this as a potential barrier to their experience and enjoyment of a subject and allocating greater curriculum time to the art of essay writing, can have a positive impact on student attainment.

Teaching Academic Writing

1. **Use open-ended evaluative questions to elicit an argument/debate.**
   E.g: How does Shakespeare present ambition in the play, *Macbeth*?

   Questions: what is most interesting about the representation of ambition in the extract and whole text? How does the ‘nature’ of violence develop throughout the play? Which word best describes violence: parasitic, paradoxical, symbiotic or antagonist?

Initial ideas from students		
Unchecked ambition becomes parasitic resulting in madness and the decline of the tragic hero Macbeth.	The supernatural corrupts Macbeth’s ambitions cementing it as a parasitic force.	Shakespeare reaffirms the paradoxical nature of ambition as, for Macbeth, more is lost that is gained.

2. **Establish the overarching argument then model how to craft topic sentences that signpost each line of inquiry**

Initially	the supernatural is a catalyst for the resurgence of Macbeth's repressed ambitions for kingship.
Ostensibly	Macbeth and Macduff are juxtaposed in their ambitions; whilst Macbeth's aspirations are egocentric and self-serving Macduff's dreams of restoring order to Scotland is more sacrificial.
Ultimately	Shakespeare warns the audience of the dangers of unchecked ambition by foregrounding its paradoxical nature.

Thinking about the order of points and signposting the argument

3. **Exemplify the thesis by embedding quotations with semantic depth and use analytical verbs to pivot from methods to meanings; deconstruct authentic texts and outline your metacognitive thinking.**

> **Example:** Initially, the supernatural is a catalyst for the resurgence of Macbeth's repressed ambitions for kingship. In his aside, Macbeth reflects on the 'supernatural soliciting,' determining that it 'cannot be ill; cannot be good,' reinforcing his caution and equally cementing the role of the supernatural as a vehicle for Macbeth's ambitions. He reflects on his new titles, dismissing them as 'happy prologues to the swelling act,' emphasising that they are simply the precursor to greater ambitions of 'Imperial themes.' The verb 'swelling' connotes the idea of growth, further affirming that Macbeth's ambitions for kingship are renewed and later fortified by Lady Macbeth's intervention and reassurances that they will not fail. Interestingly, Macbeth considers 'yielding' to the suggestion of regicide, creating a sense of ambiguity which on one hand implies a sense of predeterminism-after all, Macbeth's fate requires him to yield-but equally could suggest that he is willing to surrender to the idea of fulfilling his ambitions with the aid of the supernatural.

4. **Rehearsal practice of each step helps to consolidate and build confidence; check each step for potential mutations and/or misunderstandings.**

Impact

Prioritising the skill of academic writing in a ‘knowledge-rich’ curriculum has its advantages; it deepens student understanding of key threshold concepts, builds specialist vocabulary and increases the likelihood of accurate retrieval.

Adopting this approach resulted in improved attainment in both GCSE English Literature and A-Level English Literature. At GCSE, 39% of students secured a grade 7 or above, with 40% of the top set (in a comprehensive setting) securing a grade 9. At A-level 91% of students secured A*-B resulting in an ALPS progress score of 1.

Conclusion

By foregrounding ‘powerful knowledge’ and intentionally sequencing the transition to academic writing, it is possible to maximise student outcomes. Once the ‘false opposition’ between disciplinary knowledge and the skill of academic writing is dispelled, the symbiosis between these two disciplines results in a curriculum that is ambitious and empowering.

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ENGLISH

HOW CAN ORACY BE USED AS A VEHICLE TO DEEPEN CONCEPTUAL THINKING?

STACY HOWE | ASSISTANT HEADTEACHER, STOKE PARK SCHOOL

Neil Mercer (Emeritus Professor of Education, University of Cambridge and Director oracy@Cambridge) calls oracy 'the poor relation of literacy and numeracy' (2016), a term which captures the traditional view of oracy as superfluous or a distraction. Despite the term oracy being first coined first by Andrew Wilkinson in 1965, oracy in 2025 can still be denigrated or ignored. Whittaker (2012) suggests that oftentimes this is because it can be viewed as an 'interruption to the normal flow of things' and 'pose[s] threats' to teacher 'control' as well as having 'nothing to show for it' at the end. Arguably, little has shifted in the perception of oracy across the years.

Yet research points to its transformative power. The EEF's research on 'Oral Language Interventions' found that an additional six months of progress can be made in primary-school-aged pupils, when discussion and dialogue are placed at the centre of learning. The DFE (2014) outlines the way in which 'pupils, who do not learn to speak, read and write fluently and confidently are effectively disenfranchised.' Oracy is a vital tool in challenging the 'class ceiling' (Friedman and Laureson, 2019) that so many are subject to within the education system as a whole. In fact, Mercer (in Voice 21, 2020) goes so far as to say that oracy is the 'only second chance for some children to have a rich language experience'. This is reflected in the modern world, where bite-sized TikTok videos shape societal discourse, algorithms control the flow of information, and, tragically for many of our pupils, dinner-table conversations are a rarity. As a result, opportunities for meaningful verbal interaction are now few and far between.

Within The Futures Trust, and more specifically at Stoke Park School, in inner city Coventry, our culture of Teaching and Learning places oracy at the heart of classroom practice. Stoke Park has over 1000 students, with a third Pupil Premium, a third EAL and a quarter SEND. Led by the Trust Director of Teaching and Learning, Julie Bircher, we established a pedagogy whereby oracy is a vehicle for learning. To use Millard's (2016) words, we move away from seeing oracy as an 'outcome' and instead, view it as a 'process'. Through using oracy to 'incorporate students' learning through talk' (Voice 21, 2019), teachers have the opportunity to identify misconceptions, develop vocabulary richness, and crucially to deepen pupils' understanding of the curriculum as a whole, which in turn impacts GCSE grades across the board and specifically in English Literature and English.

To appreciate how oracy can deepen pupil understanding and conceptual thinking, it is important to note how typical interactions in a classroom can in fact prove a hindrance. Lyle (2008) sets up a core problem within typical oracy routines, namely an 'Initiation, Response, Feedback' structure. A teacher poses a question, selects a pupil to answer, and then follows up with a confirmatory remark or a follow-up question. There is no doubt that 'cumulative talk' (Mercer, 1995) has its place, especially when checking for knowledge. However, its danger lies in pupil perceptions around the purpose of talking in the classroom. The idea that pupils simply need to 'work out what [we] want [them] to say so [we'll] leave them alone' (Budden, 2017), can starve them of creative thought, reducing the likelihood that pupils may ask questions. Arguably, doing so creates a barrier for pupils to think conceptually and deeply about the subject matter.

With this in mind, teachers must consider how to engender this conceptual approach from Year 7, so that even from KS3 students are encouraged to critique, explore, and debate the varying texts they encounter. In our school, we achieve this through the use of talking points. Talking points are carefully constructed statements, often provocative or contentious in nature, which enable a group discussion around the extent to which pupils agree. When responding, contributions must be considered and employ powerful knowledge with justification. When setting up a talking point, we follow a number of key steps to ensure that there are clear oracy routines. These create a culture of collaboration, respect, and rigour. We begin with unpicking the key words within the statement, clarifying the meaning of vocabulary. From there, we establish a set of principles or rules for how our talking point will take place, something that Dawes et al. (2004) cite in their research as crucial to effective oracy. These involve the participation of all, the use of formal language, turn-taking, and respect to those speaking. Reminding pupils of these each time they encounter a talking point resets the expectation and forms a contract within each group.

At this stage, pupils are given a specified amount of time to speak. It is imperative that the teacher does not instinctually dive into circulation and join discussion. Initially, the teacher should adopt a 'Pastore's Perch' position to gain an overview of the room. Quick misconceptions, or any reluctance to engage can be picked up quickly, enabling targeted intervention once circulation begins. This is invaluable across all subject disciplines, and encapsulates William's (2017) 'minute-by-minute' model of formative assessment. Once circulating, it is important that the teacher listens and asks questions if needed, but does not impose their view or the sense that there is a definite answer. This builds confidence in pupils, but also keeps the talk exploratory in nature, rather than treasure-seeking the perceived desired response. Further adjustments can also be made to the talking point, depending upon the topic or group. These may take the form of giving a dominant contributor the role of asking questions only, or planting a 'devil's advocate' within the group. It may even involve halting the talking point at a midpoint to add a new opinion, piece of evidence or conceptual question, to re-galvanise the discussion. As oracy serves as a vehicle here, there is no need for pupils to record or write what they are discussing. Rather, all pupils should be present active participants. When listening to discussion, the teacher must also bear in mind that ideas may be 'hesitant and incomplete' (Barnes, 2008, p.5). Ideas can only become fully formed through thinking out loud, and the use of peers to support the development of that thought. Mercer (2020) calls it 'interthink', the process whereby pupils collaborate to add, build and challenge ideas, ultimately to make connections across opinions and ideas.

When collecting feedback from the talking point, the teacher serves as facilitator. As groups feedback, the teacher targets specific pupils to share ideas, acts as scribe to document key vocabulary or ideas onto a working whiteboard, or as a guide to steer the discussion so it doesn't stagnate or veer away from the focus it should have.

Where some have reservations around using oracy in this way, it might be because they are conscious of whether they can afford the curriculum time or because there is no evidence of what students have been doing written down. Our school ethos for this keeps in mind the long-term benefits. Deeper understanding and personal engagement during discussion ultimately will increase the likelihood of long-term retention. For example, when teaching Shakespeare's *The Tempest*, a talking point can be whether students would argue Caliban is more of a sympathetic victim, a ruthless villain, or an exploited victim driven to vengeful fantasies, factoring into what degree audience-ship of the text may affect perception. We can use the same talking point multiple times across lessons to track how their views and understanding of a character or theme change as they engage with more of the text. In doing so, pupils can appreciate that the reader response evolves and changes, while developing their oracy skills. Another example in English is the character of Lady Macbeth and the overgeneralisation that is common across essays where students describe her as a 'Femme Fatale'. However, they often fail to consider the various elements which may (or may not) render Lady Macbeth a nuanced female character. Our use of talking points gives pupils the time, collaboration, and atmosphere to learn to debate and develop the skill of articulating their points with clarity.

The impact of oracy at Stoke Park School is both universal and undeniable. Through consistent and embedded oracy routines across the curriculum, we have significantly narrowed the progress gaps between PP and non-PP students, as well as between SEND and non-SEND students. Moreover, The Skills Imperative 2035 (NFER, 2022) cite 'communication' as one of the six essential employment skills. Our culture of oracy has supported pupils in engaging with potential employers and companies as part of our Careers offer, as well as preparing them for interviews as they start to plan their Post-16 destinations.

However, the success of oracy offers our pupils more than this. Voice 21's impact report celebrates that 'students with good spoken language skills are more likely to experience confidence and enjoyment at school' and across their seven-year journey at Stoke Park school, our pupils' confidence and self-esteem also develops. This results in them taking on leadership roles within our student council, who have been instrumental in our accreditation as a UNICEF Rights Respecting school. In actively teaching our pupils how to speak, we have created a culture and ethos where our pupils feel confident to speak and present to their peers in assemblies and at events, but also more widely at local and national events.

Although talking points act as a fulcrum for developing conceptual thinking across the curriculum, they are only one of the tools we employ. The importance of explicit vocabulary instruction, consistent approaches to reading, the use of learning preparation and the role of powerful knowledge within the curriculum as a whole function together to provide pupils with the underpinning knowledge and skills to draw on within discussion. The development of oracy exists within all of these facets too, as a constant presence, driving the learning and ensuring pupils think hard. As Mercer (2020) presented to the Oracy All-Parliamentary Group inquiry 'Speaking for Change', 'oracy will help them in their study of all subjects', and it is this universality of oracy that makes it a teacher's greatest ally in the classroom.

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INTERVIEW WITH JAMES HOLDSWORTH | HEAD OF MATHS, ETON COLLEGE

One of the major advantages in our context is that we are academically selective. This provides a strong foundation for quick progress, especially in subjects like mathematics, where pattern recognition and memory play a significant role (alongside inherent mathematical ability) at GCSE level. In addition to the considerable speed with which they assimilate new ideas, many of our students also become highly efficient at working through large volumes of past papers, gradually absorbing the underlying structures of exam questions. Through repetition, they develop exam fluency through recall and sometimes, for weaker students, as a substitute for a deeper conceptual understanding of the most demanding material.

But this strategy has limits. At A-level, the same methods no longer suffice. Students who have relied heavily on memorisation often falter when faced with unfamiliar questions that demand flexible thinking and deeper comprehension. GCSE maths can feel like variations on a theme, apply a known method to a slightly altered problem, but this surface-level competence can quickly plateau if genuine understanding hasn't been built.

That's where we see our role: to widen each student's "mathematical window", their capacity to understand and engage with concepts, not just procedures. Our strongest teachers are those who deeply understand the curriculum and have an intuitive sense of common misconceptions. This insight enables them to craft better examples, pose more effective questions, and guide students through learning journeys that are meaningful rather than mechanical.

In our department, we value autonomy. While we may often share resources, have common internal exams, and follow prescribed schemes of work, the route to ultimate outcomes is fairly flexible. Skilled teachers know how to distil complexity, pace learning appropriately, and most importantly, avoid over-scaffolding. The temptation, especially in exam years, is to treat the destination as the goal: to get students efficiently from A to B by modelling complete solutions. But when teachers feed students the full answer, they deprive them of the opportunity to think. In mathematics, the most important line is often the first one, the initial step that sets the structure and direction for the rest of the solution. That's where the thinking begins.

Instead of completing the full journey for students, we encourage teachers to meet them only partway, then step back. Combined with skilful questioning, this creates space for productive struggle, which is essential for long-term understanding. The goal is not to remove challenge, but to manage it, to keep students just beyond their comfort zone, where growth happens.

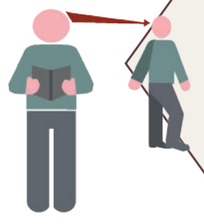
This problem-solving mindset is central to our approach. Even our most able students can struggle to decode unfamiliar questions. So we teach them to pause, interpret, and plan before acting. We treat decoding as a distinct skill from execution, and equally important. One technique we use is to practise past papers by only completing the first line of each question. This reinforces the habit of deliberate starting, a crucial, often overlooked part of problem-solving.

Well-chosen examples are critical here. A good example doesn't just demonstrate a method; it tells a story. When introducing a topic like Pythagoras, for instance, we might explore algebraic manipulation, real-world applications, and geometric puzzles. The aim is not just to build a "bank" of likely questions but to expose students to off-piste problems that develop flexibility and resilience. Students who are regularly asked to explain their thinking, to the teacher or to other students through collaboration, and defend their methods are far better equipped to deal with unfamiliar or abstract problems which they might face in exams.

Ultimately, our best mathematicians are not just the fastest or most fluent in rehearsed techniques. They're the ones who can wrestle with uncertainty, who remain calm when faced with something unfamiliar, and who are willing to try, fail, and rethink. Maths competitions often exemplify this kind of thinking, not because they mirror exam conditions, but because they demand creative problem-solving and the confidence to explore multiple routes. However, teacher-directed and monitored enrichment and extension is often the most effective vehicle for real development.

Some ideas of extension activities you can suggest or organise for students

1 **Emphasise the difference between memory and understanding;** students are often able to recall and repeat previously learnt methods, but when asked to apply in a non-standard way can they adapt? Do the appreciate the application of their knowledge, not just the recall? Developing the problem-solving aspect of their understanding can quickly be very rewarding.



More demanding 'problem solving' questions from the GCSE:

a **Dr Frost** (can be sorted by difficulty: https://www.drfrost.org/)
MADAS Maths (https://www.madasmaths.com/)

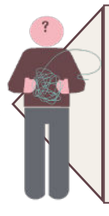
b **Exam board graduated papers**
(Edexcel produce 'gold, silver, bronze' papers graduated by difficulty

c **Maths Advance:** https://mathsadvance.co.uk/

2 **UKMT problems** (https://ukmt.org.uk/home-competition)

a Solo competitions (JMC, IMC etc)

b Team competitions (TMC: can be run as a school competition with the groups pre-set)

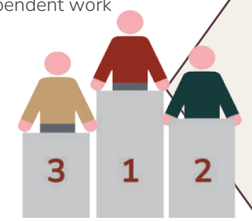


UKMT problems offer a much less knowledge-based test of mathematical might. Less about memorised facts and methods and more about unpicking the problems, whilst being slightly guided by the multi-choice aspect. The solo competitions are good for individual talents, but the team competitions offer the added benefit of collaboration, and indeed the oral aspect of mathematics.

3 School Competitions (including vivas)

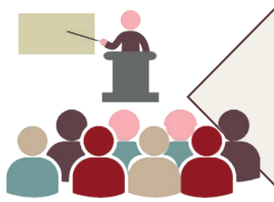
a Suggested topic titles for independent work

b Given text, exam paper



Set up prize competitions in school. Perhaps organised by year group, or pairs of year groups, the competitive yet independent nature of this is highly valuable. Either give a small number of suggested essay titles (to guide the students towards the right accessible, but new material), or issue them with a set text of mathematics and set an exam based on the text. Both approaches encourage independent study and are best followed up with vivas, where the stronger entrants are quizzed over the work they produced on a 1-1 basis.

4 Presentations / research



Have the students take a few lessons and homework out to research an area of maths or a problem or theorem, and present to the class (c. 5-15 minutes dependent on age). Develops presentation skills and confidence but also offers freedom in the choice of topic and approach. The best presentations can be rewarded or perhaps collated for school-wide dissemination.

5 General Enrichment resources

a YouTube (eg)
Mind Your Decisions: https://www.youtube.com/c/MindYourDecisions **letsthinkcritically:** https://www.youtube.com/c/letsthinkcritically **Michael Penn:** https://www.youtube.com/c/MichaelPennMath **PreMath:** https://www.youtube.com/c/PreMath
Mathologer: https://www.youtube.com/c/Mathologer
Numberphile: https://www.youtube.com/c/numberphile
3Blue1Brown: https://www.youtube.com/c/3blue1brown

b Websites:
https://nrich.maths.org/
https://brilliant.org/
https://artofproblemsolving.com/
https://undergroundmathematics.org/

6 Pupil Generated Problems

Develops an even deeper understanding of material when students are asked to develop their own problems (these might be offered up as homework for the week, or a competition etc). Encourages them to explore what they need to know, be given, and want to find.

7 Meetings:

a Speakers – subject experts

b Clubs/ projects

Are you able to get students in maths clubs, either solving problems or presenting to each other? Is there a chance to have visiting speakers address the club?

8 Exchanges/partnerships

Exchanges or mentoring programmes with local schools: it's enlightening for students to think about how to teach and explain something rather than repeat a memorised method.

WHAT DOES A GRADE 9 LOOK LIKE IN BIOLOGY?

AARON BRIDGES | HEAD OF SCIENCE, ETON COLLEGE

The Eton Context

Each year nearly 250 Etonians sit the Edexcel IGCSE Biology qualification. Of those, around 50% obtain the coveted Grade 9. Many score well above the boundary; indeed, looking at the raw marks the boys typically obtain, it would not be unreasonable to suggest that if such grades existed, many of them would score those hypothetical 10s, 11s and 12s. Grade 9 Etonians may distinguish themselves in several areas, including but not limited to:

- **Knowledge:** They possess a comprehensive understanding of the specification, often extending beyond the minimum requirements to explore connections and delve into complex topics. They are clear on the structure of each paper they will sit, and the types of questions which characterise each paper.
- **Application:** They are adept at applying knowledge to novel situations, such as interpreting unfamiliar data, evaluating experimental designs, or making scientifically-sound suggestions when presented with biological phenomena in unfamiliar organisms or systems.
- **Analysis and Evaluation:** They are confident in the art of critical thinking, synthesising information to form logical conclusions and evaluate evidence. Although they do not relish tackling longer-answer questions, they have strategies to tackle them with success.
- **Exam Technique:** They answer questions with detailed accurate responses, maximising marks through the use of specific terminology and turns of phrase the examiners demand for success, a skill obtained through hours of past paper practice and the rigorous study of published mark schemes.
- **Work Ethic:** They are often proactive in seeking help and guidance from their teachers. When they encounter challenges in their study/revision that they cannot resolve on their own, they do not hesitate to approach their teachers for clarification or support. This reflects their commitment to mastering the material and achieving excellence. Moreover, they hold high expectations of their teachers, valuing clear, detailed explanations and constructive feedback that helps them improve further.

While we are academically selective, we do not rest on that distinction. We hold high expectations for all our students, fostering a culture of continuous growth, effort, and aspiration. High expectations underpin the achievement of top grades. As teachers we play a pivotal role in setting the bar, encouraging boys to aim beyond what is merely "good enough" and pushing for excellence.

This involves:

- **Challenging boys:** Designing tasks that stretch their abilities, such as analysing complex datasets or unfamiliar material, or tasking them with looking at familiar material in a different way.
- **Raising the bar:** Insisting on precision and depth in written and verbal responses, providing constructive feedback to refine their work.
- **Cultivating a growth mindset:** Encouraging resilience and emphasising that mastery can be achieved through effort, not solely via innate ability.

Beyond the specification: high expectations outside the classroom

Beyond these academic qualities, grade 9 Etonians often engage in productive habits outside the classroom. Many take the initiative to attend societies, participate in activities like science clubs, and enter both external and internal competitions (e.g. the Biology Challenge run by the Royal Society of Biology).

Teachers help by:

- **Encouraging extension reading:** Recommending books like *The Selfish Gene* or journals such as Nature. Providing curated lists of reliable online resources can inspire curiosity.
- **Promoting enrichment activities:** Suggesting participation in science fairs, Olympiads, or MOOCs to deepen students' understanding and enthusiasm for biology.
- **Facilitating independent research:** Guiding students to design their own experiments or explore topics of personal interest, fostering critical thinking and problem-solving skills.
- **Engaging with school opportunities:** Encouraging students to actively participate in school science clubs, attend lectures by visiting speakers, and aim for recognition in competitions like the Biology Challenge from the Royal Society of Biology. Such activities inspire students to explore topics beyond the curriculum and build confidence through achievement.

Effective teaching approaches for Grade 9 success

Preparing boys to achieve a Grade 9 requires a combination of targeted teaching strategies that foster deep understanding and excellent exam performance.

These may include:

- **Emphasising links between topics:** Teachers consistently highlight connections between different areas of the specification, helping students to see Biology as an interconnected subject rather than a series of isolated topics. This synoptic approach not only prepares students for questions that integrate multiple concepts but also encourages them to think in a more holistic and analytical way. By modelling this mindset, teachers inspire students to actively seek and articulate links themselves, fostering deeper understanding of the subject.
- **Higher-order questioning:** Use open-ended questions that challenge students to analyse, evaluate, and synthesise information. For example, ask students to critique experimental methods or predict the implications of biological trends.
- **Application to unfamiliar situations:** Incorporate tasks that require students to apply their knowledge in novel contexts, such as interpreting data from cutting-edge research or solving problems that connect multiple topics.
- **Extensive practical work:** Provide frequent opportunities for hands-on experiments, emphasising not just methodical accuracy but also critical evaluation of results. Encourage students to design their own experiments where possible.
- **Targeted exam technique instruction:** Teach students how to dissect questions, structure answers to meet mark scheme criteria, and manage their time effectively during exams.

Regular practice with past papers, coupled with detailed feedback, helps build both confidence and precision.

Differentiating within the Grade 9 cohort

Recall that approximately 50% of Etonians achieve a grade 9 in Biology. Within this group there is significant variation in terms of the boys' innate ability and work ethic. So far, the narrative may have implied that a Grade 9 Etonian is a model student, displaying all the characteristics a teacher could wish for. However, that is not quite the case, and a simple (if imperfect) classification would be to identify some boys as most natural 'biologists', who have a gift for the subject and others as 'grafters', whose self-discipline and determination enable them to achieve that top grade. There is, of course, overlap in how these students might be taught, and most classes will contain a mix of both these groups, along with others who are not aiming for a Grade 9. Nonetheless, this variation has an influence on teaching strategies:

- **For 'innate' biologists:** Provide advanced challenges, essay-style questions, research tasks that mimic pre-university expectations and deliberately touch on A-level concepts and content. Discursive conversations and group discussions during lessons provide natural and adaptive ways to stretch these students.
- **For 'grafters':** Focus on ensuring consistent high performance across all specification areas, particularly exam technique and application of knowledge.

Differentiation within this cohort involves diagnostic assessments to identify specific strengths and areas for growth (for example, reviewing performance in Trials (internal exams) using exam wrappers), coupled with tailored support and opportunities for enrichment. Extensive use of past papers and mark schemes is standard across all ability ranges, though the quality of engagement with such tasks tends to be lower for academically weaker students.

INTERVIEW WITH GEORGE GUNDLE | HEAD OF PHYSICS, ETON COLLEGE

The physics department has consistently achieved excellent GCSE results: 56% of students achieve Grade 9, and 85% secure Grades 8 or 9. It can be difficult to separate how much of this success is due to what we do in the classroom and how much is driven by the aspirations and motivation that the boys bring with them. Also, the culture of the school is one of excellence and high expectations. When students fall behind or begin to drag their heels, they are quickly identified and supported, often with Housemasters playing an active role in ensuring they stay on track.

One of the structural decisions that supports this culture is our use of streaming, which I firmly believe in. Differentiation is incredibly difficult to deliver consistently well, and streaming helps reduce the need for constant in-class differentiation. In physics especially, we rely heavily on students' aptitude, which still feels relevant and useful. Knowing the level at which to pitch explanations is crucial. For students in lower sets, we provide additional support and increasingly focus on making lessons as active and student-led as possible. Rather than relying on teacher-led "chalk and talk" methods, we encourage students to engage actively with the material. When they are working, thinking, and doing, it provides valuable opportunities for tailored, one-to-one support.
Feedback is a central part of teaching, providing a crucial bridge between what students attempt independently and what they truly understand. Homework is carefully reviewed, with modelled solutions used to help students see exactly how they can improve. This process often reveals common misconceptions, which are particularly important to address in physics where small misunderstandings can quickly compound. Identifying these misconceptions is just the first step, students need repeated opportunities to practise and correct them to achieve lasting understanding. To support this, every lesson begins with a focused recap of previous material, helping to reinforce learning, strengthen recall, and provide a solid foundation for new concepts.

We make full use of the extensive online resources now available to support and extend learning beyond the classroom. PhET simulations from the University of Colorado, which students can easily access, are regularly integrated into lessons to help visualise complex concepts in an interactive way. Alongside this, we use platforms like Isaac Physics from the University of Cambridge, which provide valuable opportunities for structured, targeted practice. This is particularly important at GCSE, where success often depends on repeated exposure to core skills, such as the ability to rearrange equations confidently. Through consistent practice, students gradually build fluency to the point where, ideally, they no longer need to rely on the equation sheet provided in the exam.

Lessons are structured to limit teacher talk to around ten minutes in a forty-minute period. The emphasis is on discovery wherever possible. For example, instead of simply giving them Snell's Law, students can perform a virtual experiment using an app to uncover the principle themselves. Demonstrations, such as using an air track to explore different rates of acceleration, also help bring the subject to life. Socratic dialogue is a key strategy; we want students to think deeply and engage with ideas, rather than passively absorb information. Typically, they spend around 15 to 20 minutes of each lesson practising questions, with the teacher on hand to offer support and guidance.

It is more challenging to adopt this approach with students who are less innately motivated or less able, but with sufficient scaffolding, it is still possible to make high-level physics accessible to most. Achieving this, however, relies heavily on teacher subject expertise. Our teachers genuinely enjoy physics and communicate that enthusiasm in the classroom, which plays a crucial role in engaging students. With careful lesson planning and strong lesson structure, even teachers who may feel less confident in physics can deliver effective lessons, though they might find it harder to go off-script and explore more complex, spontaneous questions with their classes. Ultimately, our goal is not simply to tell students what they need to know, but to ignite their curiosity, to create that "oomph" factor where learning becomes enjoyable, absorbing, and no longer feels like hard work.

We also believe that professional reflection is critical. Ongoing departmental collaboration is more valuable than one-off professional development sessions. We regularly share what has worked well and maintain a book of demonstrations, complete with feedback and stickers (for the most well received practical) indicating their success in practice. We also believe in trying new approaches and are currently rethinking how we set homework tasks, particularly in light of how AI can now complete standard physics homework both confidently and accurately. Rather than focusing on work that can be easily outsourced to AI, we are moving towards a flipped learning model, even at GCSE. Homework increasingly centres on preparation, followed by mini quizzes in class to test understanding. This approach allows us to see not just what students know, but how well they have prepared. It also emphasises the importance of note-taking, which we now deliberately scaffold. These short tests provide useful data on student progress and offer a more efficient and meaningful checkpoint for teachers than traditional essays. Flipped learning, it seems, has valuable applications not just at A-Level, but at GCSE too.

INTERVIEW WITH SAM NOAKES | TEACHER OF PSYCHOLOGY, KING'S ACADEMY EASTHAMPSTEAD PARK

GCSE Psychology presents a unique challenge: it requires both scientific understanding and strong written analysis. While students are often drawn to the subject out of an interest in mental health or behaviour, they are sometimes unprepared for the level of scientific and evaluative thinking required to achieve top grades. One of the most significant differentiators between mid-range and high-achieving students is the ability to evaluate effectively, not just to recall information or apply theories, but to critically assess arguments, research methods, and evidence.

Evaluation is often misunderstood by students. Unlike description (AO1) or application (AO2), evaluation (AO3) is not easily revised through memorisation. Instead, it demands flexibility, reasoning, and confidence in handling ambiguity. Many students are unsure where to begin, they struggle to structure evaluation, and often fall back on formulaic or generic responses. To address this, effective teaching must break evaluation down into manageable components.

A useful strategy is to begin with simple evaluation in isolation before expecting students to integrate it into extended essays. Starting with basic AO1 tasks, such as describing a theory, helps build foundational knowledge. Once this is secure, teachers can model AO3 writing using exemplar paragraphs. Many teachers find success using variations of the PEEL structure (Point, Evidence, Explanation, Link), but the real challenge lies in guiding students beyond simply identifying a strength or limitation and into analysing its implications. The second half of the paragraph, where the analysis and contextualisation occur, is often the weakest. Providing sentence stems and model transitions can help students develop this more sophisticated skill.

One practical tool is the use of evaluation banks or "back-pocket evaluations", curated lists of evaluative points tailored to each topic and subtopic. These should include at least four examples per area, along with prompts such as: Which evaluation is most relevant to this question? Why? Can this evaluation be applied to other theories or contexts? Over time, scaffolding can be reduced as students internalise how to critique concepts using a consistent toolkit.

Importantly, much of effective evaluation draws on research methods, so it is useful to teach these at the beginning of the course. This gives students a critical lens through which to evaluate content throughout the year. When analysing a study or theory, students can be asked: Which aspect of research design is being used here? What are its limitations? Could the findings be replicated? This approach encourages deeper scientific thinking and helps students see psychology as a science, a misconception that continues to act as a barrier for many.

Misunderstandings about the scientific basis of psychology are common, especially among those who begin the course expecting it to focus solely on therapy, mental health, or group behaviour. Addressing these assumptions explicitly, and showing how psychological knowledge is built through hypotheses, data, and replication, can help bridge the gap between student expectations and exam demands. Students must also learn to link concepts across the course, understanding how cognitive, biological, and social approaches relate, and how uncertainty and complexity are part of scientific inquiry.

There are structural challenges too. In some schools, psychology is taught by non-specialists due to staffing pressures. While this is understandable, it can limit how far students are pushed in their conceptual understanding. Specialist teaching in science-related subjects significantly enhances students' ability to engage in critical thinking and analysis. Without this expertise, the more abstract or evaluative demands of the specification are harder to teach, and students risk being capped at mid-level performance.

Technology such as AI tools can offer some support, especially in generating essay models or retrieval questions. However, these tools cannot substitute for expert feedback. Students often need guidance in refining their answers, learning how to improve structure, deepen analysis, or correct misconceptions. AI can generate plausible responses, but without human intervention, it cannot determine which evaluative points are most relevant or accurate in context.

High achievement in GCSE Psychology relies not on surface-level content knowledge, but on the development of analytical and evaluative thinking. Students must be explicitly taught how to critique, how to use research methods as a lens for evaluation, and how to structure their thinking clearly. Effective teaching in this subject demands both subject expertise and a clear pedagogy for building skills over time. Without this, students may struggle, not because they lack ability, but because they haven't been shown how to think like a psychologist.

INTERVIEW WITH JO RAINEY | HISTORY TEACHER & DIRECTOR OF TEACHING AND LEARNING, ETON COLLEGE

In the secondary classroom, equipping students with the skills to analyse and evaluate in history is a challenging but essential goal. Many students struggle to move beyond narrative recall, or 'knowledge dumping' into a developed and justified argument, and that isn't surprising as it's a big ask! However, as teachers, we must help students to see content and knowledge as the 'thing' which they depend on to think and write like historians.

A foundational step in this process is helping students learn to rehearse their arguments before writing, verbally working through multiple causes, consequences, or perspectives. This helps them formulate clear lines of argument and recognise that they will always know more than can be included in a timed exam. The challenge lies not in how much they know, but in how effectively they can select and deploy their knowledge. Filtering information to choose the most relevant and impactful evidence, and explaining why it is more significant than alternatives, is a key marker of progress.

To meet exam demands, students also need explicit instruction on how to dissect questions. This includes recognising command words (e.g. evaluate, analyse, describe, assess), identifying the parameters of the question, and unpacking abstract terms like "success" or "significance." These elements are not incidental; they point directly to the kind of structure and judgement required for higher-mark responses. Teachers should model how to interpret exam questions and how to frame answers that respond precisely to what is being asked.

Another common barrier is students' confusion around the skill of evaluation. Many believe they are evaluating when they are merely describing or explaining. Teachers must clarify that analysis involves breaking down an idea or event to understand its components, while evaluation goes further - weighing factors, prioritising evidence, and justifying judgements. Embedding this distinction in classroom language through sentence stems, structured debate, and reflective checklists can reinforce the skill.

Helping students practise comparative judgement is especially important for pushing them into higher mark bands. The ability to weigh evidence, to say not just what happened, but why one factor mattered more than another, often separates a 12-mark response from a 16-mark one in our Edexcel IGCSE course, for example. Encouraging students to justify why a particular cause was more important, or a consequence more far-reaching, cultivates their ability to think like historians rather than just recount facts.

Scaffolding plays a crucial role in building these skills. Rather than asking students to produce entire essays too early, it is often more effective to focus first on one well-crafted paragraph. Can the student make a clear point in a well-shaped topic sentence? Support it with relevant evidence? Explain its significance? Introduce comparative or evaluative language? This step-by-step approach allows for targeted feedback and reduces the cognitive load of tackling full essays from the outset.

This scaffolding can take many forms. Structured gap-fill exercises, while simple in format, require students to think carefully about what is missing, be it evidence, analytical phrases, or judgement metrics. Providing model paragraphs with missing or scrambled words encourages students to reconstruct strong writing and internalise what quality looks like. These strategies are particularly valuable for students who feel overwhelmed by the complexity of extended responses.

Model answers, whether dissected live or via screencasts, can also play a powerful role. Teachers can walk through a sample response, annotate it, apply marks, and invite students to rank multiple versions. This not only shows students what a good answer looks like but also promotes self-assessment and reflection. When students engage in the process of deconstructing answers, they are more likely to transfer those insights into their own writing.

Ultimately, history exams are as much about crafting an argument as they are demonstrating your breath of knowledge. And like any skill, writing improves with deliberate and regular practice. Timed writing under exam conditions should be embedded into the classroom routine. But what follows matters just as much: meaningful feedback, opportunities to redraft, and a culture of self-evaluation. Students must not only receive feedback but learn how to use it.

There is ongoing debate within history education about the role of scaffolding. Some argue that it limits student independence. In practice, the opposite is true: when used purposefully, scaffolding gives students the tools and confidence to tackle complex tasks and move from recall to argument. By explicitly teaching the structure, language, and judgement required in historical writing, we are not just preparing students for exams, we are helping them develop the habits of mind that define a historian.

16 Mark Questions - Top Tips

What was the main reason why...?/What was the most significant change/challenge/impact...?

This type of question tests four main skills. To answer effectively, you need to:

IDENTIFY key factors relevant to the question:	EXPLAIN how each factor contributed to the main issue in the question:	Provide EVIDENCE of each factor's effect on the main issue in the question:	EVALUATE the comparative importance of different factors identified on the main issue in the question:
e.g. "The Enabling Act allowed Hitler to consolidate power in the period 1933 to 1934."	e.g. "The Enabling Act meant that Hitler could remove opposition through law, which legitimised his actions and strengthened his hold on power."	e.g. "Under the terms of the Enabling Act, local government officials were replaced by Nazi supporters in state governments in April 1933, and the next month trade unions, which the Nazis thought to be associated with rival socialist movements, were banned."	e.g. "The Enabling Act was more important than the Reichstag fire in the setting up of a Nazi dictatorship because..."

This structure will hope you show off these skills:

INTRODUCTION (OPTIONAL):- Include a thesis, i.e. a direct response to the question.

PARAGRAPH 1 Named Factor

PARAGRAPH 2 Alternative Factor

PARAGRAPH 3 Additional Factor

CONCLUSION: This needs to include a justified comparison between factors to answer the question.

	Planning Sheet - 16m Questions	
1	INTRODUCTION	What factors will your answer address? What is your argument?
2	NAMED FACTOR	IDENTIFY - What is the factor you intend to address? How important is it overall? EXPLAIN - How does this factor relate to the question? EVIDENCE - What examples will you use? EVALUATE - How important and why?
3	ALTERNATIVE FACTOR	IDENTIFY EXPLAIN EVIDENCE EVALUATE - How important compared to the main factor and why?
4	ADDITIONAL FACTOR	IDENTIFY EXPLAIN EVIDENCE EVALUATE - How important compared to the main factor and why?
5	CONCLUSION	The MOST IMPORTANT factor was... What EXPLANATION will you deploy in support of your CONCLUSION?

Helpful Words/Phrases for Evaluating Importance:

"A more significant factor was..."

"Less important was..."

"Without x it is clear y would not have occurred, because..."

INTERVIEW WITH GRANT SHEEHAN | ASSISTANT HEAD AND DIRECTOR OF SIXTH FORM, ROYAL GRAMMAR SCHOOL HIGH WYCOMBE

The Royal Grammar School is an academically selective school, which means that every student has passed the 11+, yet we recognise that selection alone does not create a homogeneous cohort. While our intake includes many high-attaining students, academic potential varies, and our focus is on ensuring meaningful progress for all. Our Progress 8 scores reflect this, demonstrating strong value-added outcomes across the ability range. This success is grounded in a whole-school ethos that values inclusion and high expectations equally, an ethos encapsulated in our guiding principle that 'what's vital for some is valuable for all.'

This philosophy informs every aspect of our teaching practice. Rather than streaming most subjects, we teach mixed-attainment classes in nearly all areas except mathematics. We believe that teaching to the top does not mean narrowing our focus to a small group of high achievers. Instead, we aim to lift the ceiling for everyone. Because all students are entered for the same GCSE tier, there is a collective emphasis on supporting as many students as possible to access and succeed in the higher-level content. Ability is not treated as fixed; instead, it is seen as context-dependent and multifaceted. Students bring different strengths, and our teaching seeks to draw out those strengths, rather than categorise them.

This approach is reflected in day-to-day classroom practice. Lessons often begin with quick recall activities or low-stakes quizzes, which revisit knowledge from previous terms or even years. These exercises are designed to build long-term memory and confidence rather than measure performance. Participation is prioritised over accuracy, encouraging all students to take intellectual risks. These strategies, while simple, support the kind of resilience and independence that GCSE success requires.

Modelling plays a significant role in helping students access challenging material. Teachers model high-quality responses explicitly and regularly, but effective modelling depends on subject expertise. For that reason, we invest in high-quality, subject-specific professional development. Departments are encouraged to engage deeply with their discipline, and wherever possible we ensure that at least one member of each department is an examiner. This allows for a deeper understanding of assessment criteria and enables staff to exemplify what excellence looks like in a given subject.

Questioning is a vital element of classroom practice, not only for checking understanding but for promoting deeper engagement and analysis. Strategies such as think-pair-share, which are used widely, are not new or novel. What elevates their impact is the way they are executed: teachers with strong subject expertise can craft more challenging, nuanced questions and guide students toward more sophisticated responses. Questioning is deliberately inclusive, ensuring that all students, not just the most vocal, are invited into the conversation, and that thinking time is built in before responses are shared. Tools like random question generators reinforce this culture of readiness and participation, while also adding pace and variety. Questioning also extends into exam preparation. Students are regularly asked to evaluate model answers, sometimes without seeing the question so they can work out what the question was, identifying what works and what needs improvement. This encourages active, analytical thinking and helps students internalise the features of high-quality responses.

In subjects like History, where content coverage can lead to a temptation to lecture, teachers are increasingly finding ways to preserve time for student thinking and creativity. One particularly effective example involved asking students to reimagine a historical event as an eight-part Netflix series. This task encourages abstract thinking, narrative construction, and detailed recall, allowing students to demonstrate both creativity and academic knowledge in a novel format. Tasks like these don't just stretch the most able, they support all learners in applying their knowledge in unfamiliar contexts, which is a core demand of GCSE examinations.

Written fluency is another key area of focus. In essay-based subjects, extended written responses are often essential for top marks. We model this process explicitly, showing students how to build arguments and structure their ideas clearly. Initially, this is done together in lessons, before gradually moving the responsibility to students through homework and independent practice. Flipped learning is used in some departments, where students learn core content at home and use lesson time for application and discussion. This approach requires students to develop effective study habits early, so departments work to establish these routines from Key Stage 3.

Students are also encouraged to think critically and metacognitively. They are asked not only to construct arguments but to adopt positions they may personally disagree with, developing their reasoning skills and ability to hold multiple perspectives. This kind of thinking is explicitly taught and embedded across subjects. Teachers encourage students to explain their choices, justify their reasoning, and reflect on their methods, habits that support deeper understanding and long-term academic growth.

Raising aspiration is also central to our work, particularly for students from disadvantaged backgrounds. Students classed as disadvantaged are placed on bespoke sixth form tracking lists, and targeted support ensures they are not only aware of opportunities but actively encouraged to pursue them. This includes mentoring, careers advice, and prioritised feedback. Teachers are advised to mark the work of FSM and pupil premium students when they are at their most focused, and to consider carefully how classroom seating and questioning strategies can maximise these students' engagement. For example, they are not arranging tables with the most able students together as this will limit the expectations of those who are seen as 'less able'.

This personalised approach is supported by a strong professional culture among staff. Departments frequently collaborate, sharing ideas and observing each other to improve practice. Subject-specific training is valued and well attended, helping staff maintain both breadth and depth of expertise. In many cases, departments develop bespoke interventions based on their students' specific needs. For instance, in mathematics, a mentoring programme pairs older students with younger ones to build confidence and fluency. In other subjects, time is dedicated to teaching executive function skills such as planning, prioritising, and reflecting, often supported by external partnerships, such as our work with Action Your Potential.

Our school's culture is grounded in the belief that barriers to learning can be identified and addressed, but this requires sustained attention and an adaptive approach. Teachers are encouraged to know their students well, act on evidence, and share responsibility for inclusion. The result is a school where teaching to the top is not limited to a few but is a shared ambition for all.

TASK

Imagine that you are making the Cold War 1941-91 into a eight part television show.

Write answers to the following:

- How would you divide the content covered so far into episodes?
- What would each episode title be?
- Write a plot synopsis for each episode.
- Who would be the main characters of each episode? Who would you cast as each character?

INTERVIEW WITH JON GREENWOOD | HEAD OF MODERN LANGUAGES AND CULTURE, ETON COLLEGE

The importance of subject expertise

At the heart of any successful language learning is strong subject expertise. In order to foster an environment where students thrive, teachers must have a deep understanding of the target language and its linguistic intricacies. This expertise is crucial, particularly when the majority of teaching is carried out by non-native speakers.

A crucial aspect of success in languages is the ability to deliver lessons in the target language as much as possible. This immersion strategy helps students internalise the language more effectively and gain a deeper understanding of its structure. However, this can only be achieved if teachers possess strong proficiency in the language. When students hear and use the language regularly, they build confidence and competence in all skills needed to learn a language. Teachers who have gone through the same process of learning a foreign language themselves are often better able to empathise with their students and tailor their teaching to address common challenges.

Focusing on grammar and vocabulary

When it comes to grammar, there is a clear emphasis on mastering verb conjugations and tense formation. While mistakes with adjective endings may not be catastrophic, errors with tenses or verb forms can significantly impact communication. This means that language teachers prioritise ensuring that students have a solid grasp of these foundational elements.

In addition to grammar, vocabulary acquisition is a key component of success in GCSE languages. Research (for example, see Stæhr, 2008) consistently shows that a deep and broad vocabulary is essential for excelling in reading and listening comprehension. For this reason, we take a systematic approach to vocabulary learning. Students are expected to learn new words weekly and are held accountable for their progress through low-stakes testing. This consistent practice helps reinforce retention and comprehension.

At the heart of vocabulary learning is the understanding that language is made up of chunks, and that words cannot be learnt in isolation. We encourage students to utilise techniques such as spaced repetition and revisit words and phrases periodically, in order to increase retention.

Emphasising fluency before accuracy

Another key to success is focusing on fluency first and grammatical accuracy second. The emphasis is placed on allowing students to become comfortable with speaking and making mistakes, as this is a natural part of the language learning process. In particular, fluency plays a critical role in the speaking component, which is often the highest-scoring part of the exam. Students are encouraged to make themselves understood, even if their grammatical accuracy is not perfect.

Listening, however, is a significant challenge for many students. In some cases, students find listening comprehension to be the most difficult part of the exam, especially because the questions can be tricky and catch them off guard.

Placing a strong emphasis on culture

We place a big emphasis on the culture of the language, which is woven into every lesson. Culture is not treated as an afterthought; instead, it is integrated into language learning from the very beginning. Language is not just about grammar and vocabulary but also about understanding the political, cultural, and societal contexts in which they are spoken. For many students, the allure of learning a language is closely tied to the cultural exploration that happens in the lessons.

By introducing students to short stories, poetry, music, and films, teachers help students gain a deeper appreciation for the language. The study of culture also serves as an engaging way to maintain student interest, and by tying language learning to real-world contexts, students feel more motivated and invested in their studies. The department also offers a rich programme of societies (talks by experts) and extracurricular activities focused on the language and culture, helping to keep students engaged beyond the classroom.

The role of teachers and language assistants

The charisma and enthusiasm of teachers are essential in motivating students. Teachers who are passionate about the subject and excited to share their knowledge inspire students to push themselves to excel. For example, teachers who can share personal experiences, such as a love for French pastry or a deep understanding of French history, can create a dynamic and engaging classroom environment that resonates with students.

Language assistants also play a vital role in fostering language acquisition. Many language assistants are recent graduates from the countries where the language is spoken, which means they bring a wealth of experience and insight into the classroom. Their presence can help normalise the process of learning a foreign language, creating a comfortable space for students to practise speaking without fear of making mistakes. Language assistants often serve as role models, showing students that it is okay to take risks with language and embrace the learning process.

Moving beyond exams: long-term language engagement

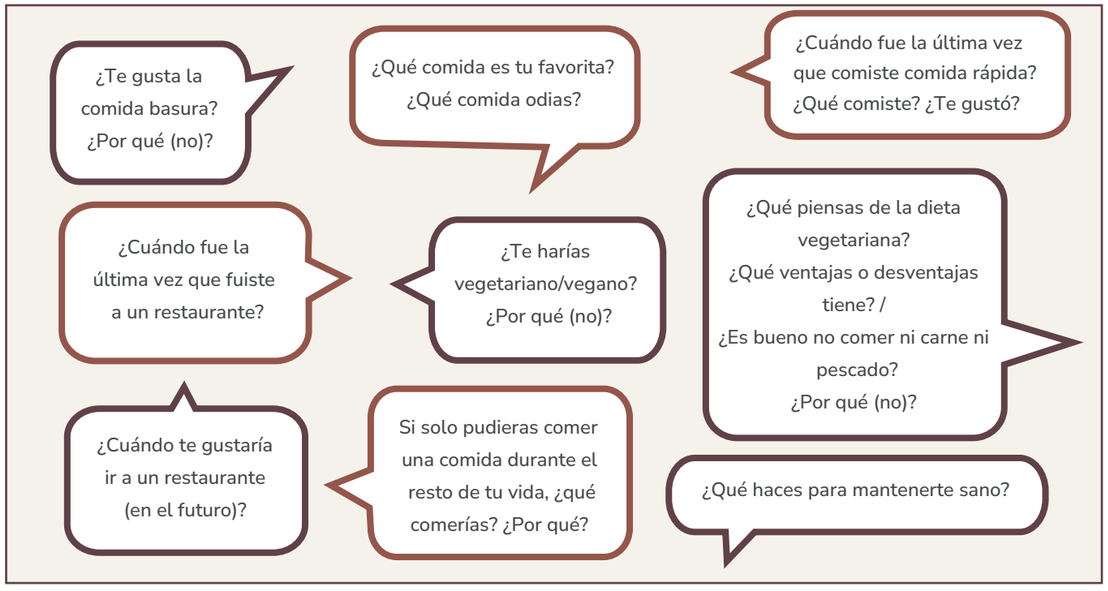
While exam results are a key marker of success, they shouldn't be the sole focus, especially not from the outset. For the department a more meaningful indicator of achievement is how many students choose to continue studying the language at A-level. This choice reflects genuine engagement and long-term retention, rather than short-term performance. One factor that supports this deeper investment is giving boys the freedom to choose the language they study; this sense of agency means they are more likely to take ownership of their learning. To nurture this, it's important not to focus on exams too early. If boys see the exam as the final destination, they may make that their main aspiration for the language. Instead, the teachers focus on a wider cultivation of passion for the subject. Past papers and exam preparation is introduced later, once a strong foundation and interest are established. Teachers, of course, need to understand the assessment criteria from the outset, but that pressure doesn't need to be passed on to the students too soon. Instead, true engagement with the language and its culture are encouraged.

References

Stæhr, L. S. (2008). Vocabulary size and the skills of listening, reading and writing. The Language Learning Journal, 36(2), 139–152. https://doi.org/10.1080/09571730802389975

Activities for oral practice

SPANISH



Provided by Mercedes Porcel, Head of Spanish, Eton College

MODERN LANGUAGES AND CULTURE

FRENCH

1	Of all the NOUNS that...the one I VERB most would be... (refer to a stand out NOUN)	De tous les NOUNS que je VERBE... celui que je VERBE le plus serait...
2	How often? (use an expression of frequency of an activity)	Tous les jours / de temps en temps / très souvent / une fois par semaine
3	Usually, but recently/last week/this morning etc (refer to a habit and recent deviation)	D'habitude / mais aujourd'hui / ce matin / hier soir
4	X VERBE DEPUIS TIME (say how long something has been true/the case)	Je fais cela depuis très longtemps / mon père est banquier depuis 20 ans
5	When (give a good time reference)	Avant-hier/La dernière fois que/Il y a deux jours/La veille de mon anniversaire/récemment
6	Who with (add a couple of details)	Avec un de mes meilleurs amis/qui aime beaucoup le sport/avec qui je m'entends très bien/que je connais depuis très longtemps
7	Time/place of meeting up (say when and where you met)	Nous avons décidé de nous retrouver à trois heures moins le quart/et demie/devant l'église/l'hôtel de ville/
8	Where X is situated compared to Y (say how far away X was from Y)	L'église ne se trouvait qu'à dix minutes à pied de la gare/ne se trouvait qu'à une demi-heure en train de chez moi
9	Getting around (say how you got from A to B and why)	Comme il pleuvait/faisait beau, j'ai décidé d'y aller en taxi/à pied
10	First of all, then, 30 mins later (give 3 activities in a logical sequence)	Tout d'abord nous sommes allés acheter quelque chose à boire, ensuite nous avons fait du lèche-vitrine et une heure plus tard nous sommes rentrés
11	Time spent (say how long you spent VERBING)	J'ai passé 10 minutes à choisir un film/à regarder un film/à trouver un restaurant
12	Time took (say how long it took you to do something)	Il m'a fallu un quart d'heure pour passer l'aspirateur/pour trouver un taxi
13	My friend told me he was hungry/tired/bored and so... (a justified activity pivot)	Mon ami m'a dit qu'il avait faim/soif/sommeil/était fatigué/il s'ennuyait et c'est pour ça que...
14	After VERBING/but before VERBING/ I was able to INF..had to INF (3 activities in one)	Après avoir fini de manger mais avant de rentrer nous avons dû acheter un cadeau pour ma mère
15	Weather consequence (say what poor/good weather made possible or not)	Comme il pleuvait nous n'avons pas pu manger à l'extérieur/nous avons dû manger à l'intérieur car il faisait mauvais
16	I decided/tried to INF (past tense sentence starters with DE)	J'ai décidé de prendre une pizza au jambon / j'ai essayé de trouver un taxi
17	I had a great time because... (say whether or not you had fun and why)	Je me suis beaucoup amusé / Mon ami et moi nous sommes beaucoup amusés / j'ai réussi à m'amuser beaucoup

Provided by Andrew Powles, Head of French, Eton College

INTERVIEW WITH CHLOÉ de BILBAO | FRENCH TEACHER, HOLYPORT COLLEGE

(after a visit to observe lessons at Eton College)

Visiting a foreign languages lesson at Eton provided useful insights into how high-attaining students are supported to reach top grades. The lessons were well-paced and clearly focused on helping students become confident language users, especially in speaking. What stood out was how simple routines, such as vocabulary tests and regular speaking practice, were used consistently to stretch students and build fluency.

One key feature was the use of weekly vocabulary tests. These provided students regular exposure to more advanced vocabulary and sentence structures, and helped them remember and use the language more accurately over time. This kind of regular retrieval is known to help memory and learning, and it was clear that students were used to this routine.

iPads and OneNote were used well to support learning. These tools made it easier for students to access resources and for teachers to share extra materials for those who were ready for more challenge. The use of OneNote also allowed teachers to provide differentiated tasks and to keep students organised with vocabulary lists and notes.

Another strength was the way teachers used the target language consistently during lessons. Teachers delivered most of the lesson in the language being learned and gave students lots of opportunities to practise speaking. Reading and writing tasks were often done at home, which allowed lesson time to focus on listening and speaking. As a result, students seemed confident and willing to participate, is likely to support their success in the speaking exam. Because the speaking exam is with their class teacher, this regular practice makes the real thing feel more familiar and less stressful.

A second feature that worked well was the use of timing for tasks. Every activity, from vocabulary tests to short tasks, had a time limit. At first, this seemed like it might make students feel rushed, but it actually helped focus their attention and gave the lesson a clear structure. Students knew what they were doing and stayed on task. It also meant that there was enough time in a single lesson to cover a range of skills: speaking, listening, reading, and writing.

It's important to recognise that Eton is a very focused and well-resourced environment, and students are often motivated and well-behaved. Many of them already see the value in learning a language, especially for travel or university. In other schools, especially where behaviour or engagement is more of a challenge, it can be tempting to lower expectations. However, these lessons showed that clear routines, high expectations, and regular speaking practice can help all students make progress, and that challenge does not need to come at the cost of accessibility.

INTERVIEW WITH JAMES STANFORTH | COMPUTER SCIENCE TEACHER, ETON COLLEGE

Computer Science GCSE is assessed through two components: a theory paper and a practical programming exam. But the emphasis, particularly in the early stages (Year 10, known as E Block at Eton), is firmly on programming. Students spend much of their first year developing the skills and mindset required to become independent and confident coders. Unlike in other subjects, students often start Computer Science GCSE with limited or no prior learning coding experience, so it's important to help them develop this skill and become familiar with the process early on. In many schools, Computer Science teaching often begins with theory because it feels more familiar, echoing the structure of other academic subjects. Programming is harder to teach and harder to learn, but it's also where the greatest learning opportunities lie which is why our approach is to teach it from day 1. Going on that journey together with students is very important to increase their confidence and achieve good results at GCSE.

A scaffolded approach to programming

Central to the department's pedagogy is the PRIMM approach (Predict, Run, Investigate, Modify, Make). For instance, when introducing loops, students begin by predicting what a given for loop will output before running it and then modifying its range or logic. This scaffolded approach allows students to gradually take ownership of their learning. Each programming task is introduced through this lens, giving students a clear structure within which to engage and experiment. This approach balances independence with guidance. Teachers model best practices, name techniques in student-friendly language, and are present to assist just when students need it most. Peer learning is also strongly encouraged. Students frequently collaborate, ask each other questions, and learn by observing their peers.

Teaching the hardest skill: learning to fail

The skill of programming is one of the hardest things to teach, since it requires students to embrace failure, something many students aren't used to. In Computer Science, this challenge is reframed as a strength. A growth mindset is embedded into classroom culture, drawing inspiration from Carol Dweck. Students are encouraged to see failure as a necessary and valuable part of the learning process.

"My mantra is 'embrace failure,' and I model that in what I do. I show students how I also fail when trying to code. It's about thinking through problems, not finding the right solution immediately. We encourage them to admit when they don't understand something and to ask questions. That builds confidence."

The theory part of the exam

While programming dominates early teaching, theory remains essential. A wide range of interactive methods, such as quizzes and apps like Nearpod, are used to help students assimilate theoretical knowledge. As a department, we have a meticulous approach in how to help students prepare for exams: past paper questions are categorised by topic and uploaded to OneNote for easy access during revision. Students can prepare in a focused, structured way. This enables them to revise by similar topics, which we know is a more systematic way in revising and retaining information. Tools like SMART Revise offer gamified learning and real-time feedback on exam-style questions. Students can track their progress, and teachers can monitor engagement levels and identify where additional support is needed.

Two core programming concepts - abstraction and decomposition - are taught and revisited continually. They are embedded in every task. Abstraction in itself can be a life skill. It's about focusing only on what's important and not getting distracted by irrelevant details. Decomposition is about breaking a problem or task down into more manageable parts. Ensuring repeated exposure to these ideas in different contexts helps students internalise and apply them with increasing confidence during an exam setting.

The role of AI in Computer Science

While there is immense value in AI for both students and teachers, we must be mindful of overreliance on AI in Computer Science for those starting out in the subject. AI is a very powerful tool and can explain errors and clarify concepts quickly. But students need to be taught how to use it appropriately. For example, a conversational AI tool like ChatGPT will default to providing the solution to a coding task. However, if students rely solely on that, they miss out the critical process of planning, problem-solving, and writing the code themselves – an experience often shaped by trial and error. The way we approach this is by not teaching students these shortcuts and insist on their use of AI prompts in a way which gets them to think and work harder e.g. 'Explain the logic error in this code but don't give me the solution'. The other potential benefit of AI is that it can help raise the subject expertise for teachers. Eton is fortunate to have Computer Science teachers who are subject experts, but often we see that teachers who do not have in depth subject expertise might be required to teach the subject. AI can be used as a way for teachers to deepen their subject knowledge and upskill when it comes to programming.

Common mistakes and challenges

Computer Science presents a distinctive challenge for students because it requires them to develop both theoretical understanding and practical programming skills in parallel. Each area contains its own cognitive hurdles — from the abstract logic of how computer networks operate, to the careful planning and precision required to build working code. Some students find this dual demand difficult to manage, particularly if they are more naturally inclined to one aspect over the other.

To address this, we focus deliberately on building strong foundations in both domains. For theoretical content, end-of-topic tests and tools like Smart Revise allow students to consolidate their knowledge regularly. We place particular emphasis on topics that students commonly find hard to grasp and ensure they have multiple opportunities to revisit and apply that knowledge in different contexts. In programming, we structure tasks to include plenty of hands-on practice, using a scaffolded approach that encourages students to gradually take ownership of the process.

There is also a mindset challenge for some learners. When students find content difficult, there can be a temptation to disengage rather than risk failure — a kind of defensive reasoning where it feels easier to explain away low performance than to persist through uncertainty. That's why we put a strong emphasis on developing resilience and habits of deliberate practice. Confidence comes not from getting everything right first time, but from being supported through repeated attempts at things that are genuinely hard.

One of the techniques used to promote accuracy and reflection

is the “cabin crew cross-check” — encouraging students to pause and systematically verify their answers before moving on, both in written theory papers and programming work. In programming, this complements the well-known “rubber duck debugging” method, where students explain their code line-by-line (sometimes to an inanimate object like a rubber duck!) in order to surface logic errors and clarify their thinking. These kinds of reflective habits reduce careless mistakes and deepen understanding, especially under exam conditions where pressure can otherwise lead to avoidable errors.

OLI COOPER | HEAD OF DESIGN AND TECHNOLOGY, ETON COLLEGE

Design and Technology (D&T) is a subject that inherently values independence, innovation, and practical problem-solving. Yet these same qualities can make it especially challenging for students accustomed to more structured, content-driven subjects, particularly at GCSE level. Success in D&T, as seen in high-performing students, stems less from innate creativity and more from how students approach and manage their own learning. The strongest candidates are those who demonstrate metacognitive awareness: they plan, reflect, and adapt with confidence in the face of open-ended tasks.

At the core of the subject is the coursework or project component, which asks students to take ownership of complex, often ambiguous briefs. Those who excel are not passively waiting for step-by-step instructions. Instead, they engage actively with the process, asking purposeful questions, seeking support from staff, and consistently referring back to the assessment criteria. While metacognitive strategies are rarely taught explicitly in the early years, effective D&T teaching fosters them indirectly through habits of reflection, critique, and iterative development.

Portfolios, a key part of the GCSE assessment, exemplify this challenge. The structure is intentionally open to encourage creative freedom, but for some students, the ambiguity can feel overwhelming. Projects that are initially too ambitious in scope or unworkable in terms of time and resources often need to be rethought. This reflective adaptation, guided by one-to-one conversations with staff, is often the turning point in a student’s development. It is here that they begin to understand the importance of planning, re-evaluation, and decision-making.

At Eton, outcomes speak to the strength of this approach: 62% of students achieve 9s and 93% 7 and above. These results are not coincidental. They reflect a department grounded in deep subject knowledge, consistent curriculum design, and expert teaching. The continuity of staffing means that expectations are well understood and clearly communicated. While students may experience their projects as uncertain and complex, teachers have a strong shared framework that allows them to guide learning with clarity and purpose. In schools with higher staff turnover or fewer departmental resources, however, the same ambiguity can present a much greater challenge to both students and staff.

Despite the creative freedom of project work, students must also contend with the more structured demands of written exams. Here too, metacognitive habits make a difference. Those who engage in spaced practice, frequent retrieval, and vocabulary learning tend to perform better. Weekly quizzes, regular workshops, and systematic feedback cycles reinforce this learning. Abstract design concepts, which may be hard to memorise in isolation, become much more accessible when rooted in hands-on experience. By building, testing, and refining physical prototypes, students gain a lasting understanding that transcends rote learning.

Support for less confident learners, including those with SEND, builds on the same principles. Success comes from knowing students well, recognising individual learning needs, and offering targeted, meaningful support. In most cases, difficulties in D&T reflect broader academic struggles. Yet the reverse is often true: students who may underperform in traditional subjects frequently thrive in D&T. For some, it becomes the area where they feel most confident, engaged, and independent; perhaps owing to the more individual independent work and (therefore? or maybe as well as?) more individually personal relationship with their teacher.

The wider learning environment plays a crucial role in making this possible. Access to studios beyond timetabled lessons, fosters a culture of sustained practical engagement. Students are encouraged to experiment, practise, and even develop projects outside of exam requirements. Early exposure to "off-the-shelf" projects helps build foundational skills, while enrichment opportunities, such as the Motorsport Society or Engineering and Design workshops, offer stretch and intellectual challenge for more advanced learners.

Ultimately, success in D&T is rooted in high-quality teaching that balances freedom with structure. The subject invites creativity, but that creativity must be scaffolded with discipline, clarity, and self-awareness. Whether supporting top performers or nurturing those who need more guidance, the most effective D&T departments are those where teachers understand both the subject and the learner. In this way, students learn not just to design, but to think deliberately, reflectively, and independently.

WHAT IS THE EFFECT OF METACOGNITIVE TOOLS ON THINKING AND WRITING SKILLS IN YEAR 9 GEOGRAPHY?

CHRISTOPHER ELLIS | GEOGRAPHY TEACHER, ETON COLLEGE

I have been particularly focused on helping GCSE students strengthen their ability to construct geographical arguments and make informed decisions in short evaluative essays, an area that carries significant marks but where many students often struggle. In this article, I share my efforts to develop a structured and engaging toolkit aimed at achieving these marks, as part of an action research project I carried out during the last academic year. There is a need for this: several recent AQA Examiners' Reports (AQA, 2024a, p.3); (AQA, 2024b, p.3); (AQA, 2024c, p. 6), note that candidates' evaluation skills are lacking nationwide.

When Geography learners respond to argument-style questions, they so often write:

- paragraphs that aren't structured or contain **incomplete thoughts;**
- paragraphs that are **'explanatory'** rather than 'evaluative';
- conclusions that simply **repeat points** already made;
- **generic conclusions** that typically **'sit on the fence'** rather than make a clear decision that answers the question with confidence;
- **verbose, evasive 'fluff'** that they think will fool the examiner into awarding a good mark.

If you teach a subject that involves extended writing, does any of the above sound familiar? I am convinced these are all symptoms of the same core issue in my classroom (and perhaps in yours too!): underdeveloped metacognitive skills.

Metacognition in Geography teaching and learning

In Education Studies, metacognition is often understood in quite generic terms as habits of self-reflection involving open-ended questioning techniques (Busch et al., 2023). Much of the existing literature on metacognition in Geography teaching seems to subscribe to this interpretation - see, for example, Geographical Association (2025); Atkins (2024); Crockett (2020). However, I follow Quigley et al's (2018, pp. 14-5) framing of metacognition as the subject-specific guiding principles that can help learners evaluate, assess, or discuss information - and reach clear decisions about the importance of that information. In Geography, these guiding principles include, but are not limited to, timescale, spatial scale, and sustainability (Figure 1).[1]

The literature makes a distinction between metacognitive habits, which are generic, and metacognitive tools, which are domain-specific and not necessarily transferable (Hattie, Biggs and Purdie, 1996). My work builds on the somewhat limited literature on metacognitive tools that are specifically geographical. For example, the Teaching Geography journal does touch upon principles of geographical evaluation, but typically in articles about examiners' reports or model answers (e.g. Rynne et al, 2020). Reverse-engineering perfect work is not entirely satisfactory in the classroom context, as it may disengage learners. Retrospective approaches to geographical evaluation do, however, inspire my own attempt to devise a more 'active' approach.

Theoretically, I am interested in constructivist approaches to teaching and learning: learners develop skills from 'building blocks' formed of prior knowledge and understanding. Ultimately, I wish to support learners to understand the 'building blocks' of geographical thinking, in order to apply them to evaluative tasks at the top of Bloom's Taxonomy (Anderson and Krathwohl, 2001; see Figure 2).

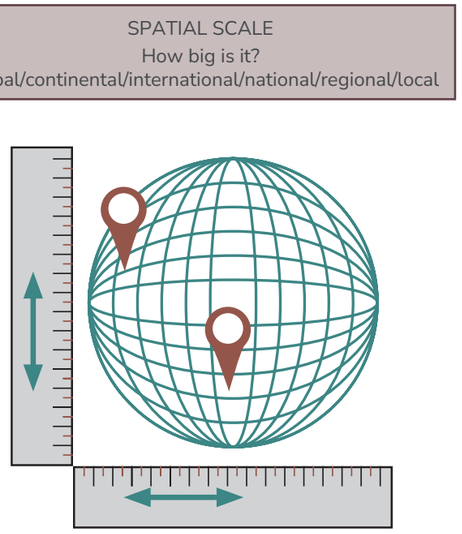


Figure 1: One of several metagognitive tools in Geography teaching and Learning

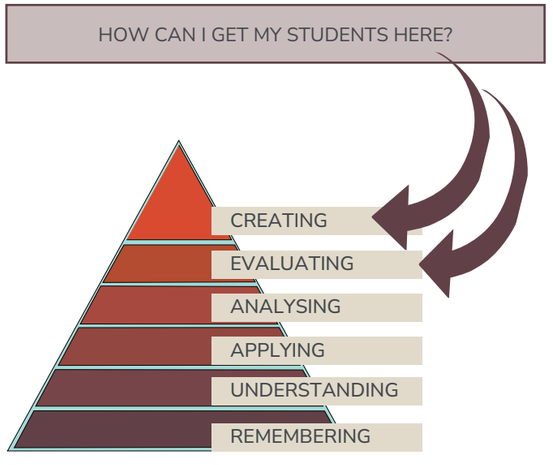


Figure 2: Bloom's Taxonomy with additions by author

[1]These are the three principles of geographical evaluation that seem to feature tacitly in mark schemes, but in my view there are many others: ways of 'SEEing' (socially, economically, environmentally); stakeholder perspectives; policy versus reality; interconnectedness; and the 'numbers'.

GEOGRAPHY

Methodology

Two classes of Year 9 learners (one HPA, one MPA) were taught a lesson sequence about the opportunities and challenges of development in Alaska. First, they attempted a 9-mark question from the AQA GCSE Geography specification, with only a list of facts to help: "Discuss the opportunities for economic development in cold environments". This provided baseline data.

Learners were then taught metacognitive tools in Geography, in the form of a card game: they matched case study facts to 'meta cards', in order to arrive at independent thoughts about the importance of those facts (Figure 3). Learners wrote their thoughts into a scaffold, modelled by the author. Afterwards, they attempted the 9-marker a second time.

The following week, learners were taught effective 9-marker answer structure, scaffolded with a detailed writing frame (Figure 4). Having learned both metacognitive tools and effective answer structure, they completed the 9-marker one final time. To end the lesson sequence, they completed a peer-marking exercise involving one learner's third attempt. Three 'exit ticket' self-reflections, produced after each attempt at the 9-marker, provided further data for analysis.[2]

Findings

A simple 'before' and 'after' comparison of learners' first and third attempts at the 9-marker revealed a considerable improvement in their evaluative skills. On average, the HPA group gained 4 extra marks; the MPA group gained 2 extra marks. Moreover, a thematic analysis of 'exit ticket' self-reflections revealed that learners:

a) Initially didn't understand the command word 'discuss'; they found the case study information overwhelming and had no idea know how to 'use' it;

b) Felt much more confident with the question after learning metacognitive tools, but still struggled with timing and structure;

c) Felt by far the most confident at the end of the lesson sequence, once equipped with both metacognitive skills and a writing frame.

Finally, most learners (72%) successfully applied the official mark scheme to a peer's answer (Figure 5), correctly identifying the appropriate Level, noting its structural components, and making valid suggestions for improvement.

Closing thoughts

Geography teachers should resist the temptation to 'tell' students what they should be thinking or writing in response to evaluative questions. My study shows that even young learners, when equipped with the tools to think for themselves, are capable of constructing sophisticated and original geographical arguments that reach the top of GCSE mark schemes. Many Geography teachers feel pressure to cram lots of facts, figures, and ultimately knowledge into their delivery of case studies. This is understandable when specifications are so content-heavy, but we run the risk of overwhelming learners while capping them at a basic intellectual skill: remembering (see Figure 2). Given the very high importance of evaluation as an Assessment Objective at both GCSE and A-level, Geography teachers should prioritise the fostering of thinking skills over the delivery of content 'by rote'.

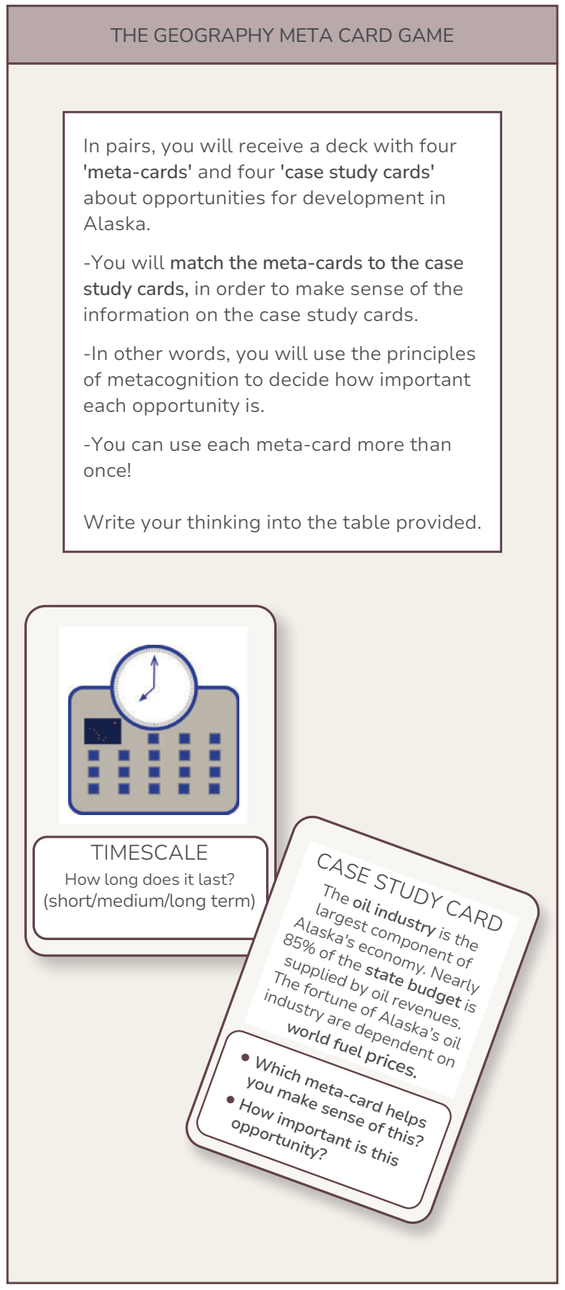


Figure 3: Teaching learners to "think like geographers".

[2] Some 'classic' metacognition, in the sense of open-ended self-reflection (Busch et al., 2023).

POINT (+EVIDENCE):
One opportunity for economic development in Alaska is... *energy, such as oil, which forms 85% of state budget*
EXPLAIN (give reasons):
This means that *the oil industry provides funding for a range of public services such as health and education, via tax revenues.*
DEVELOP your explanation:
(CHALLENGE) Furthermore... *it provides job opportunities to over 10000 Alaskans, and the public services funded by the oil industry, provide a further 1800 jobs.*
LINK (discuss referring to TIMESCALE, SPATIAL SCALE, SUSTAINABILITY, WAYS OF SEEing
This opportunity...provides opportunity for exploration to global scale markets. The energy can be exported, and support the energy security of other countries, due to the global demand for oil. (CHALLENGE) Moreover/However... Oil is unsustainable, it is a non renewable energy source that contributes to climate change. Arguably H.I.Cs should instead focus on making green energy transition.
DECIDE!
Therefore, this opportunity is important to a large/certain/limited extent. (Circle one)

Figure 4: Scaffolding evaluative writing in Geography

TASK2: *Read the student's third attempt below, after learning about the 'principles of metagognition" in Geography. Colour code the answer again, using the same system...*
Point (what's the idea?**) (AO1)**
Piece of Evidence (is there a case study fact?**) (AO2)**
Explanation (Where's the understanding?**) (AO2)**
Developed explanation (have they 'spun off' another idea with connectives?**) (AO2)**
Link back to the question (where is the discussion, i.e. decision about the importance of the idea?**) (AO3)**

One opportunity for economic development is oil, which forms 85% of state budget. This means that infrastructure, defence, education, and healthcare are all funded by tax revenue from the oil industry. Furthermore these services provide employment opportunities to 18,000 Alaskans. This opportunity can be exported, and supports the energy security of other countries, because there is a global demand for oil. However oil is an unsustainable, non renewable energy source that contributes to climate change. Arguably H.I.Cs, like the USA should focus on making green energy transition.

Figure 5: Peer-marking exercise, focusing on the structural components of a good evaluation answer

NEXT STEPS

- How could this activity be differentiated further for learners of Middle and Low Prior Attainment?
- Learners' conclusions were, on the whole, still quite weak. How could I better teach this crucial part of geographical argument?
- How could this activity be adapted to A-level teaching? Why not introduce KS5 students to a broader range of metacognitive tools in Geography? Could they come up with more tools themselves?
- Could a template of this activity be created, ready to be applied to any case study within any Geography specification?

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BALANCING SIMPLICITY AND CHALLENGE: ENABLING STUDENTS TO FIND JOY IN COMPLEXITY

DANIEL MACE | GEOGRAPHY TEACHER, LANGLEY GRAMMAR SCHOOL

When dealing with highly able children, a good reflection question can be 'What is the hardest thing the children have had to do today?'. 'Hard' can be different things, but looking at the final question on the final exam paper can sharpen our focus. Identifying what 'hard' means in Geography requires that we are clear that they need to demonstrate what the Structure of Observed Learning Outcome (SOLO) Taxonomy (Biggs & Collis, 1982) would call 'extended abstract' reasoning: a level where students do not only connect facts but extrapolate and hypothesise beyond the given context and exhibit the ability to apply their knowledge to new, abstract scenarios. Teaching to the top of GCSE Geography in Langley Grammar means we need to have at least one eye on the eventual goal: the skills and knowledge they need to have to do well in their A Level exams. 'Teaching to the top' whilst also enabling all children to succeed, means our lesson design is based on the Accelerated Learning Cycle (Smith, 2003). Although the Accelerated Learning Model first rose to prominence in the 2000s, it has stood the test of time. We have adapted it to suit our context, for example, by using Hinge Questions to link each stage of learning. Guided by the principle that 'memory is the residue of thought' (Willingham, 2009), our overall approach is intentionally designed to help students deeply engage with content, master the knowledge, and embed it in their long-term memory.

There are four stages to the Cycle:

- First, we 'connect the learning', which is often knowledge recall about the previous lesson, but questions might also be blended with work done a week, month or even a year ago. They are deliberately planned to reactivate knowledge we think children need for that lesson, or that they experienced elsewhere in their world.
- Secondly, we present new information using interactive methods, guided by a careful analysis of the specification and the core knowledge highlighted in mark schemes. Our aim is to avoid overwhelming students with excessive content by delivering it in accessible and engaging ways. We believe that using a variety of teaching approaches helps to remove barriers to learning and ensures that all students have the opportunity to succeed.
- Thirdly, we require students to use that information to make decisions and express understanding for themselves. The activities are increasingly open-ended at this point and often rooted in 'Thinking Tools' and frameworks; our judiciousness at this point is gained by looking at potential 'Assess' and 'Evaluate' questions as well as Examiner Reports. These tend to highlight misconceptions and highlight the kind of language we might expect from abstract geographical thinking.
- Finally, we ask for re-expression, often in response to a very abstract question that might mirror the complexity of the one at the start of this article. Our hope is that all children can go 'beyond the specification' albeit at different levels of depth. Being able to handle a level of ambiguity is important, as we hope this can inspire and excite students for their A-Level studies.

Lesson Sequence: GCSE Geography

We focus on prioritising depth by carefully structuring the sequence of learning both within individual topics and across the full seven years of study. Within each topic, we focus on the type of writing required for the most challenging exam questions students will face. For example, we recently revised a unit on UK Physical Geography. Previously, the emphasis was on numerous geological terms and processes—many of which were not directly relevant to the exam. However, we found that the most demanding questions required students to evaluate the interactions between different 'spheres' of the physical environment. For instance, they might be asked to explain how the uneven distribution of rainfall across the UK interacts with the uneven distribution of rock types, shaped by past tectonic processes.

Because students had already studied rock breakdown in Year 9 and rainfall patterns in Year 8, we were able to shift the focus of the sequence to making meaningful connections between concepts. We modelled the necessary vocabulary in a way that avoided cognitive overload, allowing students to develop deeper understanding. To promote mastery, we challenged them to create group presentations in response to different 8-mark exam questions. This was scaffolded through the use of a graphic organiser to help them structure and articulate a coherent argument.

'Teaching to the top' doesn't just mean challenge. Highly able children need scaffolds to 'hem in' their thinking. We use the same tools for students at all grades to help with memorisation (our preferred tool is Brainscape), and we think they always need to employ active learning strategies to make their own notes (we give them scaffolded mindmaps, for example, see the graph overleaf).

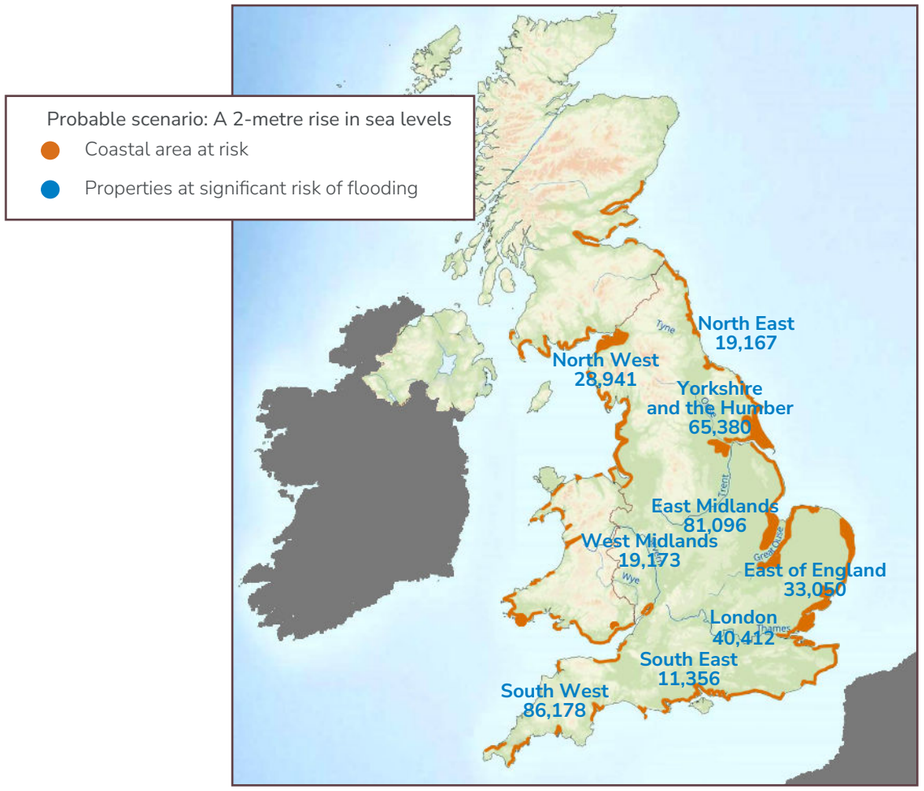
Recognising the need to address EAL needs in Geography

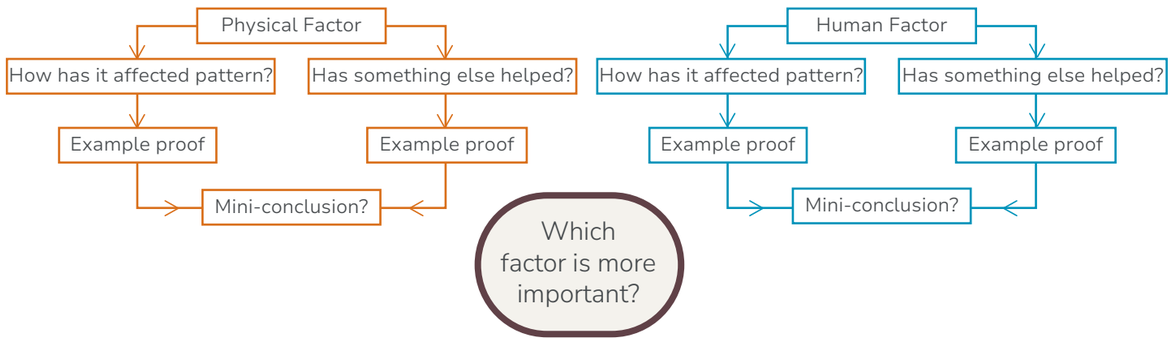
We recognise that supporting students with English as an Additional Language (EAL) requires deliberate, inclusive planning. To achieve this, we use the following strategies:

1. To build their confidence and familiarity with key terminology, we use Quizizz to reinforce definitions, not only of Tier 3 subject-specific vocabulary but also of Tier 1 and Tier 2 language that frequently appears in mark schemes and assessments.
2. Given the complexity and volume of language across the GCSE curriculum, we ensure that our marking grids use pupil-friendly language. This allows students to focus on feedback without being overwhelmed by unfamiliar terminology.
3. Our curriculum is ambitious, both in what we cover and in the ways we ask students to engage. We carefully sequence lessons to create opportunities for dialogue and relationship-building, enabling us to better understand and respond to individual needs.
4. We are intentional in how we use language in the classroom, creating a space where students feel safe to express uncertainty and ask questions. We actively nurture their instinctive, emotional reactions to topics and guide them and guide them to support these responses with geographical knowledge and understanding.
5. Rather than simplifying the subject, we channel their emotional engagement to inspire and motivate. This empowers students, including those with EAL needs, to rise to the intellectual challenge of GCSE Geography with confidence and enthusiasm.

By harnessing their emotional energy, we motivate and inspire them to embrace the challenges of GCSE Geography, rather than focusing on making the subject as simple as possible.

SAMS1 - Assess the physical and human factors which affect the pattern of UK properties at risk of flooding





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