GCSE AI Adaptive Learning Programme

The Sabrewing Programme

The Concept

From September 2024, David Game College will be piloting an alternative programme of study for GCSE students - the first of its kind in the UK - with all core subjects being taught entirely by AI-driven adaptive learning platforms. This novel approach encapsulates the very essence of student-centred education - so much so, that students enrolled on the programme will not have teachers, nor will they need to slow down or speed up their learning in order to keep up with traditional classes.

Instead, students on the Sabrewing programme will each follow their own personalised learning pathways, studying at their own pace while receiving individual support from dedicated learning coaches who carefully monitor their progress, providing feedback, guidance and mentoring to enable each student to fulfil their potential and become highly effective, independent learners. In addition, our students will also benefit from a unique and ambitious co-curriculum, which focuses on students' broader development in areas such as active citizenship, critical thinking, digital literacy, artistic expression, public speaking, self-awareness and entrepreneurship.

10 Key Facts about the Sabrewing Programme:

1. **Designed for GCSE Students:** The Sabrewing programme is designed for GCSE students aged 15-17. This one-year intensive programme starts on 23rd September 2024.
2. **Daily On-Campus Learning:** Students attend college every day, engaging in core subjects through AI-powered Adaptive Learning platforms that personalise their educational journey.
3. **Small Group Learning:** Each group comprises no more than 20 students, ensuring personalised attention from three dedicated learning coaches, fostering a supportive and focused learning environment.
4. **Comprehensive Subject Coverage:** The core curriculum includes Mathematics, English, Biology, Chemistry, and Physics. Additionally, students can choose between Computer Science, Geography, and History, allowing them to tailor their studies to their interests.
5. **Structured Learning Schedule:** The programme is split into morning sessions

focused on core academic subjects, and afternoon sessions dedicated to a robust 500-hour life skills programme.

6. **Personalised Learning Experience:** The key advantage of the Sabrewing programme is the use of adaptive learning technology, enabling students to progress at their own pace and ensuring that each student receives a customised learning experience.

7. **Accelerated Learning:** By pinpointing exactly what students know and where they have gaps, the programme helps them master topics more efficiently, accelerating their overall learning process.

8. **Targeted Support:** The data-driven approach allows learning coaches to identify students who need extra help and provide targeted, one-on-one support to address their specific challenges.

9. **Holistic Development of soft skills:** Beyond academic work, the life skills programme nurtures students in critical areas such as critical thinking, debating, entrepreneurship, AI, financial literacy, RSE, and PSHE education.

10. **Ideal for Non-Traditional Learners:** The Sabrewing programme is particularly well-suited for students who have been home-schooled, out of formal education, or who prefer learning outside of a traditional classroom environment, providing a flexible and supportive alternative.

Why is the programme called 'Sabrewing'?

The Sabrewing programme at David Game College draws its name from the remarkable Sabrewing hummingbirds. Hummingbirds are celebrated for their exceptional agility, resilience and adaptability. They also excel in navigating their environments independently and tend to fly solo even when migrating over great distances, as opposed to travelling as a flock. The Sabrewing programme intends to develop the same independence, self-reliance, resilience and adaptability in all of its students, as they progress on their own personalised learning journeys.

Hummingbirds are also unique in their ability to fly in all directions. This reflects our educational philosophy that sometimes, revisiting previous material is essential in order to achieve true mastery and progress. In order to address any knowledge gaps that students may have acquired over time, all of our students are assessed on learning that would usually have taken place in earlier years of their schooling. This ensures students have a strong foundation to build on for continued success in their learning.

How does AI-driven Adaptive Learning work?

Adaptive learning works by regularly assessing students on how well they know each area of the curriculum and generating personalised learning pathways based on each student's individual knowledge gaps and areas of mastery, prioritising and sequencing any course material that the student has yet to master. Adaptive learning systems also highlight when students begin to struggle, and can direct students to additional materials and also act as a virtual tutor, answering questions and explaining concepts as needed. This means that students are always fully supported, and can take however much time they need to master each topic before moving on to new material.

What are the benefits of AI-driven Adaptive Learning?

Simply put, AI-driven adaptive learning allows each student to accelerate their learning, while still learning at their own pace and aiming to achieve mastery in the topics they encounter.

Adaptive learning ensures that students are always studying exactly the right material to meet their needs, based on regular assessments of both their prior knowledge as well as any new learning. This approach reduces the total number of hours each student needs in order to complete the syllabus for each subject, freeing up valuable time which can then be used in other ways.

In addition to fostering significant academic progress, AI-driven adaptive learning systems can also boost students' confidence and improve student wellbeing, empowering students who thrive outside of traditional learning environments to achieve mastery in their subjects while mitigating psychological barriers that often affect learning, such as fear of failure, embarrassment and stereotyping.

While conventional teaching can be very effective for many students, it often overlooks a student's specific cognitive learning blocks and conceptual misunderstandings, due to both a lack of access to objective data, as well as limited capacity to analyse and interpret it effectively.

How is this different to home learning using online adaptive learning platforms?

The Sabrewing programme at David Game College differs significantly from using adaptive learning applications at home in several ways:

1. **Professional Guidance and Support**: Home-based learning often lacks professional oversight. In the Sabrewing programme, each student benefits from the expertise of dedicated learning coaches who not only monitor academic progress but also provide personalised feedback, guidance, and mentoring.

2. **Integrated Co-Curricular Development**: The Sabrewing programme incorporates a rich co-curriculum designed to enhance students' overall development. This includes active citizenship, public speaking, entrepreneurship, and more. These activities are structured to complement the academic curriculum, providing a holistic educational experience that prepares students for real-world challenges and opportunities.

3. **Accountability and Structure**: Learning from home can often be unsupervised or lack the necessary structure, which can lead to inconsistent learning habits and outcomes. The Sabrewing programme offers a more structured learning environment that still allows for individual pacing and personal learning pathways but within a framework that ensures consistent progress and accountability.

4. **Community and Interaction**: Unlike the isolation that can sometimes accompany home learning, Sabrewing students are part of a vibrant school community. This community provides not only peer interaction but also opportunities for collaborative learning and group projects, which are vital for developing teamwork skills and emotional intelligence.

5. **Access to Resources**: Students in the Sabrewing programme have access to resources that might not be available at home, including specialised software, workshops, guest lectures, and extracurricular activities. These resources are

integrated into the learning experience to enrich education and provide students with a breadth of learning and exposure.

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The Core Curriculum Offered

The core academic curriculum focuses on KS4 (GCSE level) and, depending on the student, will feature at least five of the following subjects, including both English Language and Mathematics:

1. Mathematics
2. English Language
3. Biology
4. Chemistry
5. Physics
6. Computer Science
7. Geography or History

It is important to emphasise that students participating in the pilot study will cover exactly the same academic content as all other students. The primary distinction lies in how students are taught and assessed.

Students will engage with these subjects through AI-driven adaptive learning platforms, and will receive support from learning coaches throughout the entire day. The programme will also feature a high student-to-coach ratio of one coach for every seven students.

FAQs

If students will spend only three hours a day studying, how will the rest of the time be used?
The college day will be divided into two sessions, with each session lasting three hours. One session will be dedicated to engaging in adaptive, personalised learning, while the other will be dedicated to delivering our unique and ambitious co-curricular programme through a series of interactive workshops, activities and outings. This allows students to broaden their knowledge as well as develop important life skills to help them navigate the numerous academic, personal and professional challenges that await them in future. The co-curricular programme will also include access to sessions and workshops delivered for all David Game College students, on areas such as PSHE and RSE.

Why is this called a *Pilot* Programme*?*
The term "pilot" is used simply because this will be the first programme of its kind in the UK. As such, the College intends to run the programme on a small scale with extensive monitoring and close attention to detail, with the intention of scaling the programme to make it available for more students to be able to benefit from in the near future. The pilot programme will also benefit from greater interaction and feedback from all stakeholders, including students, parents and staff involved with the programme, in order to make

continuous improvements as the year progresses. For the pilot year, student numbers for the programme will be capped at 20 students.

Despite being part of the pilot, all participating students will be students of David Game College and will enjoy all the benefits of being full-time day students. This includes access to the entire curriculum and additional support services (SEN, mental health, pastoral care, careers advice, trips, events, etc.) provided by the College. Given the novelty and uniqueness of this approach, the term "pilot" is appropriate. Nonetheless, we anticipate significant improvements in students' learning and notable academic results.

Who is the target student?
While the College has no specific, rigid requirements for students to be part of the pilot programme, it anticipates applications from UK-based students who have been previously home-schooled, are considering home-schooling, and/or have faced challenges in maintaining a presence within a conventional school setting. The College will be selective for the pilot programme and seeks to ensure that participating students have both the academic potential and desire to succeed, and also that each student's needs can be effectively met by the provisions which could reasonably be made available, especially during the pilot phase. Before being admitted to the programme, students will undergo an interview and brief online testing. The College is not looking exclusively for high-performing students but aims to understand each student's starting point in order to be able to demonstrate the progress being made throughout the programme, which will ultimately be reflected in students' final GCSE grades. The College is therefore looking for a broad distribution of abilities among students in order to ensure a representative selection.

Will students on this programme mix with other students at the college?
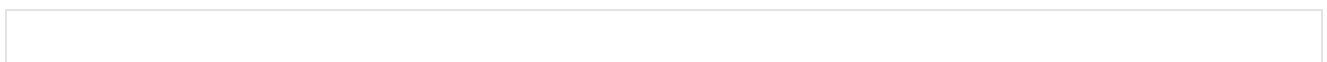Students will have many opportunities to meet other students and staff, and will be encouraged to participate within the wider college community should they wish to do so, by sitting with other students during lunch breaks and participating in extracurricular clubs and other activities offered by the college.

Fees and Course Delivery

The fees for the programme will be £27,000 for the academic year. Fees will include any outings and activities which are planned specifically for students enrolled on this programme. Students are expected to complete at least five GCSE subjects within this timeframe, preparing for exams in Summer 2025. While examination requirements may vary, students must study a minimum of five subjects, as many will be of compulsory school age. Additionally, all students will have access to David Game College's support curriculum, super-curriculum, and area-based curriculum, tailored for students of relevant ages, whether day or boarding.

Meet Our Students

View All

Jack

GCSE Day Student

Molly

University of Sussex

Ruqaya

GCSE Day Student

Yanina

University of Cambridge

Anna

University of Cambridge

Jelal

University of Cambridge

Bob

UCLan

Caroline

Imperial College, London

Kuda

Brunel University

Iman

Queen Mary University

Kumsal

Queen Mary University

Emmeline

King's College, London

Jack

GCSE Day Student

Molly

University of Sussex

Ruqaya

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