Muddy Stilettos

The Muddy Stilettos Award for

'Most innovative technology-led teaching'

10 reasons why Brockhurst and Marlston House is the most innovative school in the UK for technology-led teaching

BROCKHURST & MARLSTON HOUSE
NEWBURY · BERKSHIRE

Introduction

Detailed in the following pages are ten reasons why we can claim to be the most innovative Independent school in the UK for technology-led teaching:

We have developed ground breaking classroom technology which has created new and innovative ways of delivering teaching.

This has enabled us to offer our parents the choice of flexible schooling in a way which radically redefines the relationship between a school and its parents.

It is supported by a US developed Learning Management System (LMS) which offers greater sophistication than UK versions and enables new possibilities for differentiated teaching and improved learning outcomes.

Programming, robotics, creative media, CAD, AI and VR technologies are integrated into our teaching and we are at the forefront of developments in education in these areas.

Watch our Video Presentation

'We are the first mainstream Independent school in the UK to offer parents technology-led flexible schooling.'

1. Hybrid Classrooms - enabling a fully online academic timetable - 'log into any lesson from anywhere'

Using video-conferencing technology we have developed at Brockhurst and Marlston House, all lessons from year 3 are available live online. We call these hybrid classes. Pupils can access these lessons through our LMS by clicking on their timetable and they are then an active, fully immersed participant in their lessons.

Hybrid classroom technology enables us to offer our parents the choice of whether and when their children are in school or online - without compromising their academic education. We are the first mainstream Independent school to offer flexible schooling in this way.

Reasons for being online have included: feeling unwell/isolating, medical/dental appointments, difficulties in travelling to school, family events or holidays, elite sport/arts commitments and, for a few, choosing to home-school in the UK or abroad.

Pupils have even attended lessons effectively using tablets whilst travelling.

'Hybrid classrooms radically redefine the meaning of schooling'

How we developed our system:

In 2019, we experimented with a wide range of video-conferencing hardware and software to create classroom technology suitable for our school. The design brief was to build a system which was simple and easy to use for both staff and primary age pupils, which could be accessed from anywhere and which was compliant with safeguarding and GDPR. By 2020 we had successfully developed a solution which avoided the over-sophistication of off-the-shelf corporate video conferencing rooms, was more pupil user friendly and affordable.

Our subsequent trials demonstrated that pupils as young as Year 3 could use our hybrid classrooms independently. All our classrooms from Year 3 to 8 were then equipped as hybrid classrooms and the staff were trained in using them.

How we used hybrid classrooms during Covid:

During the Covid lockdowns in 2020 our hybrid classrooms enabled us to deliver face to face teaching simultaneously to children of key workers in school and to other pupils at home. We also outreached to pupils in the State sector (see below). Our staff taught from their classrooms in school throughout and our system was probably more advanced at that time than that of any other school in the UK.

'In the pandemic, our technology enabled pupils to attain outcomes ahead of the expected syllabus point in normal times.'

2. 'Flipped lessons' - innovative, technology-led remote teaching

Our technology makes it possible for teachers who are not in school to teach lessons to pupils in their classrooms in school (or online). Pupils' work can be submitted and returned through our LMS. We call this form of hybrid teaching a 'flipped lesson'.

Flipped lessons have reduced the need for lesson cover due to staff absences because teachers are often able to continue teaching from home using our equipment. This has improved continuity of learning for pupils and reduced the pressure that having to cover lessons puts on teachers in school.

In addition, flipped lessons have created new possibilities in accessing high quality teaching. Our Head of Classics, for example, now teaches all his lessons from France in this way. This has enabled us to retain an outstanding and highly valued teacher on our staff who would otherwise have left us.

3. Use of an Advanced Learning Management System (LMS) sourced from the USA

In the US, hybrid teaching is a key element in the future direction of learning both at university and college level and the US leads Europe in both this and LMS platforms.

The LMS we chose enabled us to create a bespoke platform to support our teaching in the primary age range. It was the first time it had been adapted for this level. It enables: a child friendly 'one click and go' online timetable for pupils to access lessons; staff to host and easily load libraries of HD videos (including recorded lessons); and the streaming of assemblies and other events through zoom.

'Teaching and learning is accessible to our pupils and their parents at any time and from anywhere through our LMS.'

4. Outreach to the State sector using our hybrid technology

During Covid, we were the only Independent school in our area to partner with West Berkshire Council and local charities working with disadvantaged children to support State sector pupils. We provided direct face to face teaching using our hybrid classrooms; raised money for the charity, Home Start, to provide free devices to access our lessons and gave free access to our recorded lessons through our LMS to pupils throughout West Berkshire. We worked with the Local Authority and with the Heads of Primary Schools to identify the most disadvantaged children.

In addition, our teachers ran free weekly 'Question and Answer' sessions from May 2020 and are still supporting some of these disadvantaged children with their GCSE coursework.

Outreach to the State Sector Press Coverage

'We are proud that we have been able to help State sector pupils through the pandemic using our technology.'

5. Recorded catch-up lessons with associated online resources

We have spent the past two years recording and editing lessons to create a video library covering an entire year's work in most subjects from year 3 to year 8 and scholarship. This allows our pupils to look back at previous lessons, catch up if a lesson has been missed and to revise for exams. Many pupils are visual learners and access to video lessons can facilitate understanding better than written information. This can be particularly helpful for pupils with learning support needs.

In addition, new pupils joining the school often have greater gaps in their knowledge than would normally be the case owing to the effects of missed education due to covid. Our library of recorded lessons, teacher-created worksheets and exercises has enabled these pupils to start to catch up before joining the school. This has also contributed to their confidence as they feel they already know their teachers before setting foot in the classroom.

See Examples of our Recorded Lessons

6. Parents can use the LMS to support their children's learning more effectively

We have created a series of free webinars both for our parents and parents from the general public. These courses have covered:

- Top tips for helping your child to get the most out of their reading
- Tricks we use at school to teach times tables
- Ways schools currently teach number skills
- How to encourage good handwriting and English writing skills

Our LMS software also allows for easy hosting of parents' meetings, online speakers, courses and various school events.

Pupils in Year 2 and below are not sufficiently independent in their learning to access the LMS or hybrid classrooms. For these pupils, we have started to develop 'help for parents' tutorials in short videos hosted on the LMS. These show parents how topics are taught in literacy and numeracy thus enabling them to better support their children at home. In this way we have strengthened the school/parent partnership in delivering better learning outcomes for our pupils.

'Parents can watch our recorded lessons and use them to support their children's learning more effectively at home.'

7. Online holiday revision and courses

Our technology enables us to make use of holiday time to extend pupils' learning.

We have delivered fully online packages of courses and lessons either live or recorded which have enabled us to better support pupils with their weaknesses and to develop their strengths. The holiday period has also become a time when pupils have the opportunity to engage in exciting extra courses (which we have made free for 'Free School Meals' pupils in the State sector in West Berkshire). Using our technology, teachers can also be more flexible in where these lessons are streamed from.

8. AI-Powered learning in Maths

The Maths department is exploring the use of artificial intelligence programmes to support learning in this subject using Doodle maths.

9. Applying tech to the real world - 3D printers, laser cutters, drones and robots

We take coding off computers and into real life by coding drones and robots. In STEM projects, 3D printing is used to produce working mini-models to test out engineering design principles. Together with CAD (computer-aided design) software, 3D printing allows students to experiment freely with their designs without expending considerable costs and time. Pupils also use CAD software in DT projects with our laser cutter.

'Applied technology engages and excites pupils in their learning'

10. Creative media and preparing children for tech careers of the future

We open pupils' eyes to future careers in technology by introducing them to:

Graphic Design:

We run extension courses for pupils in graphic design, animation and photo and video editing using Pixlr and Shotcut.

Learning through coding games:

Our teaching of coding looks beyond gameplay or interactivity to include exploring a game's design process. The idea is to give pupils basic game designing skills (without the complexity of programming) so they can create their own games. This helps them to develop broader skill sets: language; systematic thinking; problem-solving (through simulation, trial-and-errors, etc.); storytelling and art.

Virtual reality:

VR technology is used broadly across subjects because we have a whole class set of VR goggles: in maths, pupils can check out 3D geometric forms from multiple perspectives; in science, 3D opportunities are expanding rapidly enabling pupils to explore at the microscopic level; in the humanities, for virtual reality field trips.

We are also exploring the possibilities of using 3D photography in VR in our own fieldtrips (eg river morphology) for revision purposes, to include those who couldn't make the trip and to help visual learners.

'Technology is used innovatively to lead our teaching - the possibilities are endless'

Mark Templeman

**About the Author:**

Mark is the ICT editor of SATIPS where he has published many articles looking at the future of educational technology and he also contributes thoughts on EdTech developments to national publications.   He is currently completing his second masters in Educational Assessment - Psychometrics at Oxford University and is Deputy Head at Brockhurst and Marlston House. .