

agenda

NEWS AND VIEWS FROM OCR / AUTUMN 2017

Focus on teaching

IN THIS ISSUE:

CASE STUDY ON A LEVEL HISTORY

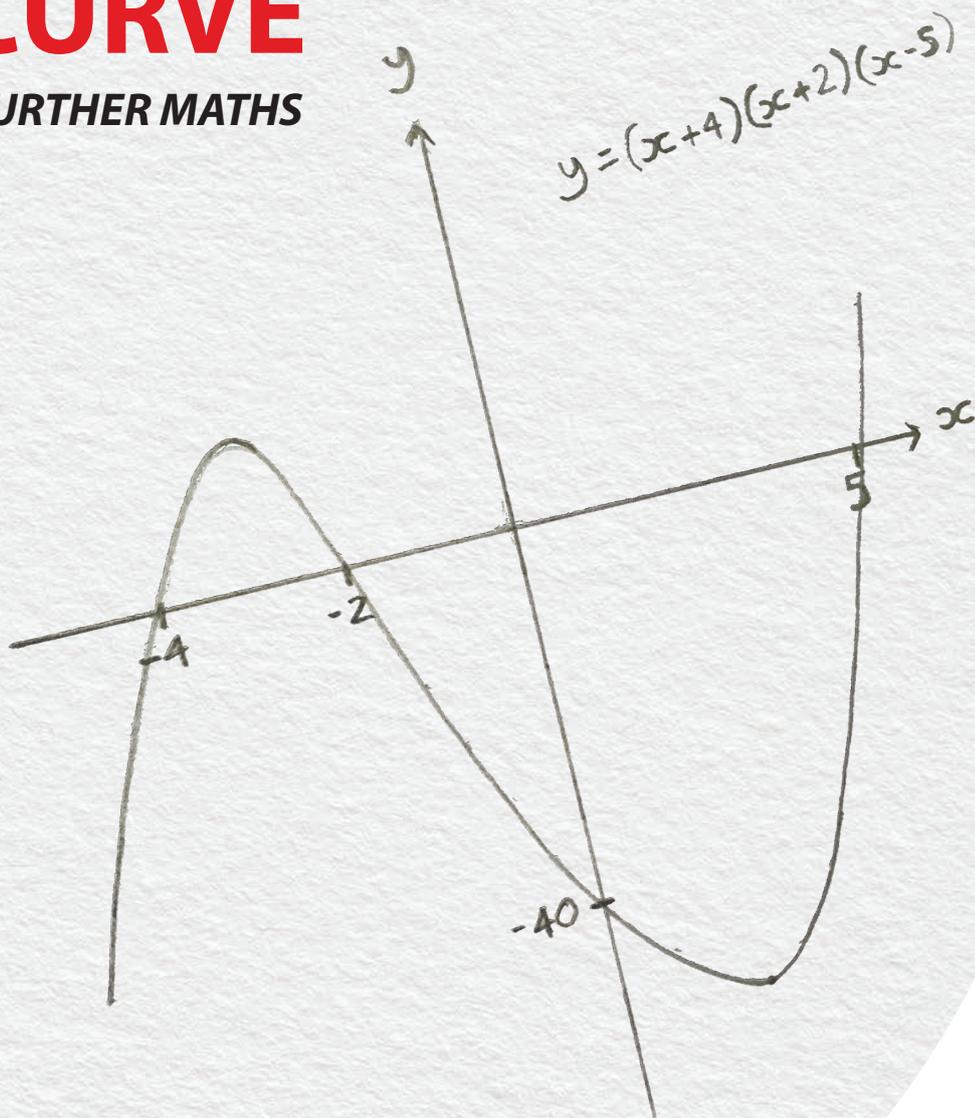
**TEACHERS ARE POSITIVE ABOUT
SCIENCE PRACTICALS**

CAMBRIDGE TECHNICALS IN THE SPOTLIGHT

**MEET ALISON PEACOCK, CHIEF EXECUTIVE
OF THE CHARTERED COLLEGE OF TEACHING**

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Welcome to the Autumn 2017 issue of **agenda**, OCR's termly magazine with a snapshot of our news and views. Many of you will be teaching one of our new qualifications. The accreditation of OCR's A Level Media Studies in August marked the end of a journey involving the reform of over 100 GCSEs and A Levels. Whatever your subject, we are keen to support teaching and learning with resources, training and advice from our subject teams.

In this issue, you can read about history teachers enjoying OCR's new A Level (pages 8-9). Having developed two new A Level Maths suites, find out how research helped us to choose the best topics on our new AS/A Levels in Further Maths. On pages 12-13, we reveal what science teachers think about new science practicals. We've also reformed our vocational qualifications – and we share news about how students with our Cambridge Technicals are aiming high.

With our focus on teachers, we are delighted to include an interview with the chief executive of the Chartered College of Teaching, Dame Alison Peacock, who is responsible for establishing the first professional body for teachers.

All this, plus free practice papers and opportunities to learn more about assessment.

Please contact us about anything you read here by emailing agenda@ocr.org.uk.

Leo Shapiro
Chief Executive, OCR

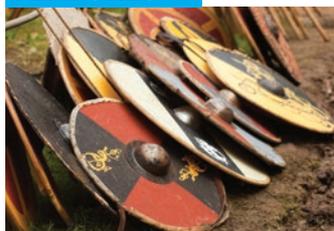
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OCR History storms the castle

The study of the historic environment is an integral part of OCR's new History GCSEs. The built environment provides significant evidence about the lives and beliefs of people in the past and a stimulating context in which young people can study history. In order to support teachers and students to engage with historic sites, OCR's history team works closely with a range of partners, from national organisations such as English Heritage and Royal Historic Palaces, to local ones like Norfolk Museums. One of the most popular options is 'castles'.

Working with English Heritage, OCR has recently held events for history teachers at Dover and Kenilworth Castles. Dozens of teachers attended the events which involved tours of the sites, workshops with historians and curators, as well as sessions with OCR's subject advisors. At Dover Castle (pictured above and right), Paul Pattison, English Heritage Senior Properties Historian, talked to teachers about the site's history and the development of the castle as well as exploring the rich history of individual buildings. One of the largest castles in the country, Dover has been used as a palace, a welcoming point for visiting dignitaries and a centre for military operations during the Second World War. More events to support the understanding of historic environments, including one at Battle, site of the Norman Invasion in 1066, are coming soon, plus we've got online teacher guides to support this topic.



Migration competition for GCSE History students

Migration was a popular subject at the SHP conference in July and there were a number of well-attended workshops related to the migration topics on both OCR's new History GCSEs. GCSE History students learning about migration can take part in a competition to design an exhibition for the Migration Museum. The first prize, as well as seeing their exhibition plans come to life, will include a trip to New York for the winning team of up to 4 students and 2 accompanying adults, including visits to Ellis Island and the Tenement Museum. Deadline for schools to submit entries is March 2018. For more details, visit www.migrationmuseum.org/ocr.

www.ocr.org.uk/history



In brief

Practice makes perfect

Since early 2016, OCR has been rolling out free 'practice papers' to help teachers prepare students for exams in reformed qualifications. These are produced alongside live exam papers by the same examiners so they are useful preparation for the real thing. In Spring 2017, OCR released practice papers for OCR's new Science and History GCSEs. More practice papers will be published by the end of December 2017 to help teachers preparing for assessments in virtually all the new linear qualifications that were introduced from 2016, which includes subjects such as Geography. In addition, OCR will provide practice papers to support schools for the brand new AS Level Maths qualifications. By the end of 2018, over 300 different practice papers will have been published in total. Teachers can get hold of the relevant materials via a single webpage: www.ocr.org.uk/pastpapers.

OCR turns it around

A fast turnaround of marking reviews is important, particularly if university places may be at stake. OCR once again provided a prompt service this summer with an average **turnaround time of under 4 days** for those requesting our 'Priority Service 2' for AS and A Level papers.

Assessment expertise at your fingertips

An accessible new online course for anyone interested in the principles of assessment will be available next year from Cambridge Assessment Network. 'A101: Introducing the Principles of Assessment' is a new 9 week course designed to provide a grounding in key concepts of assessment such as reliability, standards and comparability. This would suit teachers, examiners or anyone working in education. For more information, email thenetwork@cambridgeassessment.org.uk.

Staying ahead of the curve

At OCR's Festival of Maths in June, maths teachers enjoyed workshops on OCR's suite of Maths and Further Maths A Levels from experts including MEI's Charlie Stripp (pictured below) and found out about resources to support teaching from CUP, Hodder and Underground Maths. OCR is the only exam board to offer teachers a choice of A Level Maths and Further Maths suites.

www.ocr.org.uk/maths



Awarding is rewarding

Every summer, OCR invites external organisations, such as teaching unions, to observe some of the key examining processes involved in delivering results for students. This includes 'awarding' (where grade boundaries are set) and 'screening' (where provisional results from the awarding meetings are checked to ensure they are fair, appropriate and valid for the whole cohort of students).

In 2017, the programme expanded to incorporate the examining of a new 9 to 1 GCSE, as well as OCR's Level 3 Cambridge Technical vocational qualifications which have external assessments.

One of this summer's observers, Sarah Hannafin, Senior Policy Advisor at NAHT, commented:

"NAHT welcomed the opportunity to observe the awarding and screening of the Level 3 Technical Health and Social Care qualification, and a screening session for the new GCSE Maths. At a time with so many qualification reforms, it was important to see how some of these new qualifications were being awarded.

"Both were extremely informative sessions, allowing us an insight into the many factors which influence and impact awarding, and how OCR approaches the screening and awarding of their qualifications to accommodate these. NAHT would recommend that others also take up this opportunity to learn more about the systems and processes involved.

These opportunities increase our knowledge and understanding of the systems and processes surrounding qualifications and which we are then able to share with our members. This transparency also helps to increase confidence in the robustness of the process and the results in a period of large scale reform."

If you or a representative from your school or college would like to find out more about the examining process by observing an awarding or screening meeting, please email us at agenda@ocr.org.uk.

OCR goes Further with Further Maths

The views of over 4000 undergraduates helped to shape OCR's new AS and A Level Further Maths qualifications. With only 50% of the content of new Further Maths A Levels prescribed, OCR used this feedback to identify the best optional topics to offer in the remaining space.

Thanks to our research, we've included a wide range of optional topics, such as partial differentiation and dimensional analysis, across our two specifications, to suit the different needs and interests of school maths students and better prepare them for the mathematical elements of university degrees.

The research, commissioned by OCR from its parent organisation Cambridge Assessment, involved over 4000 undergraduates from 72 universities taking a range of degrees requiring mathematical competency, from architecture to psychology, including mathematics itself.

Over 85% of those interviewed who had taken Further Maths at AS or A Level thought the course was good preparation for the mathematical demands of their university studies and smoothing transition into higher education. More importantly, the research identified that their particular maths needs differed depending on degree area. OCR has chosen optional topics to reflect this.

For example, OCR has included optional 'Mechanics' topics in AS and A Level Further Maths to support those intending to study engineering or the physical sciences, while

'Statistics' options benefit those going to study social sciences or medicine. The 'Discrete Mathematics' and 'Modelling with Algorithms' options support transition into maths, computer science and economics degrees, with options such as 'Additional Pure', 'Extra Pure', 'Numerical Methods' and 'Further Pure with Technology' providing excellent preparation for all heavily mathematical degrees, such as engineering and physics through to mathematics.

Students taking OCR's Further Maths AS and A Levels can take additional optional papers, beyond the minimum requirement for the course. This allows them to broaden and deepen their knowledge and potentially to pursue interesting options not always available in their school or college.

Will Hornby, OCR's Maths Subject Advisor, commented: "Whatever their long-term plans, our evidence-based approach means OCR's Further Maths specifications can enhance student progression. With a clear structure, they are also easy to teach and are completely co-teachable with A Level Maths."

www.ocr.org.uk/maths

Improving www.ocr.org.uk

If you have visited the OCR website recently, you may have noticed some changes.

In response to feedback, we've made it easier for people using our site to get the information they need. With simplified navigation and page design, key content is accessible more quickly. Having improved the pages supporting our new GCSEs and A Levels, we're listening to our website users to bring improvements to our vocational qualification pages too. Watch this space!

Cambridge Technicals in the spotlight



Urdang Academy, one of the UK's finest performing arts colleges, is now offering OCR's Cambridge Technicals as an important stepping stone on its students' path to success.

OCR's Cambridge Technicals in Performing Arts have been introduced to upskill students in preparation for taking the popular Level 6 Professional Diploma in Dance or Musical Theatre and the BA Hons Degree Courses in Musical Theatre and Dance. The college takes its commitment to outreach work positively and aims to provide a funded training route that is inclusive to all.

The Cambridge Technicals suite now provides the foundation for a remarkable student journey and allows Urdang to educate its students alongside focusing on the practical training elements that get students into jobs.

The academic study and research is well received by students as it gives context to their practical training. The course also allows students to hone research skills in preparation for transition to higher education. Urdang has developed its own learning strategy to work within its busy curriculum by writing a coherent workbook that supports the candidates when they prepare for Cambridge Technical examinations and internal assessments.

"The balance of academic study and practical training works in our environment where consistent practical improvement is everything and vital to the students' progression," said Yvette Curtin, Education Strategist, Urdang.

Students taking Cambridge Technicals share the same teachers as on the Diploma and Degree courses so the transition is seamless and works the students to their highest potential.

www.ocr.org.uk/cambridgetechnicals

Cambridge Nationals on Performance Tables

OCR's new (Level 1/2) Cambridge National in Information Technologies counts on the DfE's performance tables for 2019. Other Cambridge Nationals confirmed on the tables include Child Development, Enterprise & Marketing, Health & Social Care, Engineering, Creative iMedia and Sport.

www.ocr.org.uk/cambridgenationals

Aiming high with Cambridge Technicals

Two students who took Cambridge Technicals at UTC Sheffield have achieved a regional and national first.

The high achieving 18-year-olds, Oliver Smith and Jake Stuchbury-Wass (pictured below), are the first students from UTC Sheffield to get to Cambridge University where they are now studying engineering. They are also the first students nationally who have completed Cambridge Technicals in Engineering qualifications to study at the university.

Both Oliver and Jake achieved three A* grades in maths, further maths and physics. They also gained distinction* grades in their engineering technical qualifications.

Alex Reynolds, Principal, UTC Sheffield City Centre campus, said: "We are extremely proud of our students and want to congratulate them on their technical excellence and academic success, and wish them all the very best for their future. Our students have proven that completing Cambridge Technical qualifications as part of their learning with us has contributed to their fantastic achievements."

Leo Shapiro, OCR Chief Executive, said: "On behalf of OCR, many congratulations to Oliver and Jake on their amazing achievements, supported by the inspiring learning environment at the UTC. The pair are the first students with OCR's appropriately named 'Cambridge' Technicals in Engineering qualifications to get to Cambridge University. We wish Oliver and Jake great success at university and beyond."

UTC Sheffield City Centre campus is Ofsted graded 'good' and was the first UTC to open in Yorkshire and Humber in September 2013. All students complete a technical qualification in one or two specialisms: advanced engineering and manufacturing or creative and digital.



Let's celebrate innovative vocational teaching



Do you know an outstanding teacher delivering OCR's Cambridge Nationals or Cambridge Technicals?

We want to showcase outstanding teachers in future editions of **agenda** and to celebrate the excellence and innovation they bring to their school or college. This is your chance to nominate a colleague who demonstrates innovation in teaching.

How to get involved:

- Send us their name, department, and school or college
- Tell us which qualification they teach e.g. Level 3 Cambridge Technicals in Business
- Tell us why you are nominating them (up to 500 words max.)
- Do you have any feedback from a student who has been taught by this teacher?
- Email these details to agenda@ocr.org.uk.

High flying students win OCR bursaries for Cambridge University studies



Star students from the West Midlands have been awarded OCR bursaries to support their studies at the University of Cambridge.

The bursary winners, with family members and teachers, were congratulated at OCR's Coventry offices on 20 September. The students took A Levels at schools and colleges in Birmingham, Coventry, Rugby, Wolverhampton, Dudley, Walsall, Nuneaton, Telford and Oswestry. Simon Lebus, Chair of OCR and Chief Executive of its parent

organisation, Cambridge Assessment, said: "This year's applicants were such an incredibly talented group of students that we gave a higher number of awards than in many previous years. All 13 are not only high achievers academically but go way beyond the curriculum to extend their studies – one even



won the competition to design the back of the new £1 coin. Others have won Gold in the Senior Mathematics Challenge, written a novel or an essay for publication. All have shown themselves to be good citizens through mentoring younger students and charity work locally and overseas. Many have overcome adversity and I hope the OCR bursary will go towards relieving any financial pressures that could get in the way of them making the most of their study and lives at Cambridge. We wish them great success at university and beyond."

Daniel Williams-Ruiz (pictured below left with Simon Lebus), who attended Heath Park School in Wolverhampton, has just started a natural sciences degree at Homerton College. He said: "When I found out that I had been awarded the bursary, I was elated. Knowing that a lot of my financial worries, that many other students have, had been eased feels great as I can devote more time to my studies and enjoying as many aspects of university life as I can."

Now in its 14th year, the OCR bursary fund – which gives £3000 p.a. to each student for every year of their studies – was set up to enable talented West Midlands students to make the most of their time at Cambridge. The fund to support education in the area is due to OCR's historical links with the West Midlands Examinations Board.

A flourishing partnership

OCR's partnership with Whole Education goes from strength to strength. Whole Education (WE) is a national network of schools and organisations committed to providing an education which develops the skills, knowledge and qualities needed to flourish in life, learning and work.

As well as teacher workshops on making the move from a modular to a linear curriculum, OCR again supported the WE awards which took place in Birmingham at the end of June. We backed an award for schools for their work enriching the curriculum. Congratulations to the winner, West Town Primary Academy, as well as the two runners up, Homewood School in Kent and the Bosworth Academy in Leicester, for their dedication to supporting a broad curriculum for their students.

In a new development of the partnership, OCR is helping WE schools to identify key strengths and weaknesses in their students' performances in the new 9 – 1 Maths and English GCSEs. In late September, OCR's researchers and subject advisors spent a collaborative day with maths and English teachers from WE schools focusing on the recent exams. By sharing research expertise and analysis of performance, OCR is helping teachers to focus on areas of improvement for 2018, and hopefully making a lasting contribution to Whole Education schools.

Whole
Education



OCR bursary student in role model campaign

One of last year's bursary winners, Michael Samuelson-Beulah, attracted media attention in May 2017 due to a campaign to encourage more black men to go to Cambridge University.

A photo showing 14 black male students at the University went viral on social media and made headlines on the BBC. The Cambridge University African-Caribbean Society, which was behind the shoot, said the purpose was to "remind young black individuals that Cambridge is for us".

Michael, pictured bottom row first left, is studying medicine at St Johns College.

Photo: Oreoluwa Ogunbiyi/Cambridge ACS

OCR'S NEW A LEVEL HISTORY: TRIED AND TESTED



Louis Everett is Head of History at the West London Free School (WLFS), an English free school for girls and boys aged 11 to 18. It is located in Hammersmith in west London and was the first free school of its type in England to sign a funding agreement with the Secretary of State for Education. In this case study, Louis shares feedback on teaching OCR's new A Level History.

"I previously taught in another state comprehensive in rural Suffolk. I completed my Masters in Education at the Faculty of Education in Cambridge in 2015, with my thesis exploring the written arguments of pupils. I currently manage a department of seven so we are extremely fortunate to be able to teach a very varied curriculum."

What topics are you teaching?

"We are able to run two A Level options; a medieval option: The Viking Age c. 790-1066, The Crusades 1095-1192 and England 1445-1509; and a modern option: From Pitt to Peel 1783-1853, Cold War in Europe 1941-1995, Abolition of the Trans-Atlantic Slave Trade (for the topic based essay), and Russia and its Rulers 1885-1964."

Are there any hurdles that you have had to overcome with the new A Level?

"In my experience, subject knowledge always seems to be the biggest concern for teachers when faced with qualification change; especially at A Level. Fortunately this also is the most enjoyable to address... read! As a head of department, I was keen to clear as much time as possible and workload for my team to concentrate on reading to improve their own subject knowledge.

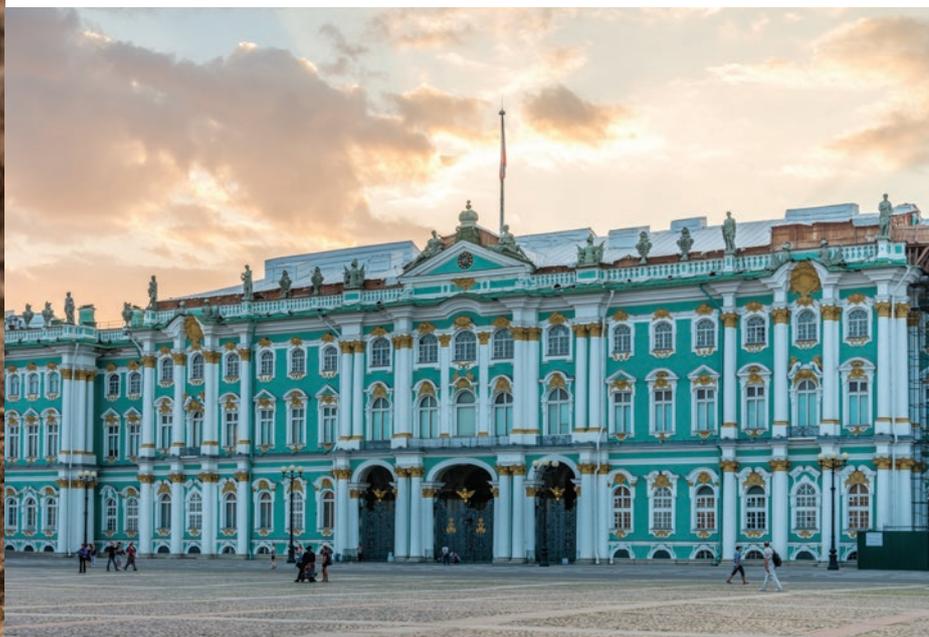
"The ethos of WLFS means that 'what' we are teaching is prioritised over 'how' we teach it, so as a department we were determined to read around the topic. Fortunately, the fascinating topics on offer from OCR meant this was a pleasure. As we only established our new 6th form in September 2016, we only started teaching the new A Level last year. We developed a summer reading list for 'Russia and its Rulers' which is fascinating! The second area of concern tends to be the intricacies of new mark schemes and

uncertainty surrounding slight changes to specified content.

"New past papers and updates on the website have been welcomed! For Pitt to Peel especially, we have worked our way through the old past paper questions to help us fully understand the common questions that were reflected in the historical scholarship we have been reading. This has enabled us to select historians and present the historiographical debate to our pupils before giving them large extended passages of historians to read. Mike Wells' Pitt to Peel textbook from Hodder has been fantastic for this; it presents the historical debate so clearly, providing snippets from historians to show their various arguments. For example, we have just marked essays answering 'how 'great' was the Great Reform Act of 1832?' where pupils were able to use the arguments of historians Linda Colley, Norman McCord and Asa Briggs effectively to drive their arguments."

What aspects of OCR's new A Level are you and your students enjoying?

"Our three Year 12 classes (across both our medieval and modern options) have hugely enjoyed the new OCR A Level. The fascinating questions inherent within both the Cold War in Europe and in the Pitt to Peel topics have meant discussion has been easy in a class context. Wells' textbook has enabled us to set regular readings from the History Today archive



as well as historical scholarship we have purchased for the 6th Form library. Whilst presenting at the WLFS History Teaching Conference, I shared many of our pupils' folders who have been averaging around 5 extracts from historical scholarship a fortnight. I feel this is largely down to the accessible nature of debate inherent within the course and the quality of Wells' (as well as others') textbook to act as a window into historical debate for many pupils.

"We have therefore been able to spend more time on the curriculum. We have been able to construct comprehensive reading lists, plan enrichment and spend longer on thinking about the content of our lessons. The quality of the curriculum has had a positive impact on pupils' enjoyment as they have greater levels of knowledge so come to lessons brimming with questions. It has been a pleasure to watch and the simplicity of the exam has been a major contributing factor to this."

What would you say to a teacher considering studying OCR's A Level History specification?

"The simplicity of the exam papers means we can spend longer on ensuring a high quality curriculum is in place rather than teaching pupils to navigate their way around a complicated exam paper. This does not mean that the exam is not challenging; the specimen material shows exam questions to be complex, rigorous and challenging.

"Our pupils have loved the rigour of these questions (and questions from the 2015 A Level) as we have used them as the basis of our lessons. Also the range of topics are superb, we have been able to design an A Level scheme maximising the areas of subject expertise in the department. Finally I have been incredibly impressed with the textbook material available to support the topics; they are knowledgeable, accessible and embrace the complexity of the history."

SUPPORT FROM OCR

How have you found the level of support for this course?

"This is the first year I have been with OCR since joining the WLFS. I have been amazed by the level of support. It is their ability to provide information quickly that is so impressive and invaluable to a busy department adjusting to new exam schemes.

"As teachers, it is so difficult to find the time in the school day to contact exam boards, however OCR make this process as easy as possible. I often send a hastily typed email in between lessons and receive a reply within 24 hours or I am able to phone. I always receive the same level of support no matter how I choose to contact or how incoherent I am in a rushed email! OCR is brilliant at fitting around teachers' busy schedules and this is a quality I have found invaluable."

www.ocr.org.uk/history

History teacher **Richard Hood** – Subject Leader of History at Strode College in Somerset – comments on completing the two year course:

"In terms of teaching the new A level I've really enjoyed it. There's a huge amount of optionality within OCR's specification so there's some great combinations of units that should suit all teachers and prospective A level students. The flexibility of OCR's course plus the specialist subject support are the two things that attracted me to OCR over other exam boards.

"Teaching the new course has been fantastic and I've really enjoyed it. I chose the Later Tudors, the Cold War in Asia and Civil Rights in the USA. This gave me some familiar content (e.g. I've previously taught Elizabeth on the old specification) but also some fascinating new history to cover like Pol Pot's Cambodia. There is a lot of content to cover so you are never bored!

"Getting used to three second year exams has also been an additional challenge so I decided to sign up to mark exams for OCR – it's the best CPD you can do and I'd highly recommend it for getting to grips with the mark schemes and understanding what examiners are looking for.

"Results this year were fantastic and Strode College History is in the top 10% of the country for value added which was testament to the hard work of our students but also how much they enjoyed the course.

"Taking 3 units (rather than 2 on AQA) has given a great variety of history studied (social, political, military, economic, British, foreign etc.) meaning there is something for everyone. To offer even more optionality, Strode will be launching a second History A level in 2018 with different options (also on OCR) so we can cater to our students' interests even better than we currently do."

Get in touch with OCR's History team on 01223 553998, via history@ocr.org.uk or follow us on Twitter @OCR_History

Professor Dame Alison Peacock became Chief Executive of the Chartered College of Teaching in January 2017. The Chartered College, which succeeded the College of Teaching, was established with the support of a number of organisations to become the recognised professional body for teaching.

Prior to her appointment at the Chartered College, Alison Peacock was Executive Headteacher of The Wroxham School in Hertfordshire. She is a member of the Royal Society Education Committee and a trustee of Teach First. In March 2015, Alison was appointed by the Department for Education as a member of the commission on assessment without levels and she is author of *Assessment for Learning without Limits*.

Here, Alison Peacock tells **agenda** about her own career and the challenges she faces in her role.



What was your background before taking on your current role at the Chartered College of Teaching?

I have always been a teacher. I have worked with all age groups, beginning with secondary and moving to early years when I had my children. Most recently I was headteacher for 14 years at The Wroxham School, Hertfordshire.

What do you like about working in the field of education?

I love working with children and young people.

Who do you admire in your field?

This is an impossible question! I admire so many colleagues in education. I admire teachers. Our profession is amazing – we change lives.

Was your own experience of education a positive one and what lessons did you learn from it?

Actually I didn't enjoy school at all. I think that was one of the reasons that I was motivated to become a teacher. I have always been restless to do as much as possible to build more respect between adults and children. As a society, I believe we need to listen to children much more carefully.

What do you do when – if – you have time off?

I spend time with my family. I have two daughters who I love to go shopping with or catch up with over a glass of wine. I also love travelling with my husband.

What is the remit of the Chartered College of Teaching?

We have a royal charter to establish a professional body for teachers. This body seeks to build the reputation and credibility of the education community thereby establishing an authoritative trusted voice.

How do you meet the needs of your members/those you represent?

Full membership can only be obtained by those teaching children or young people aged 0-19. Members have access to an extensive research database, member-only online communities (such as journal clubs, book clubs), the opportunity to apply to study for Chartered status and three journals a year. We have also established an extensive network across England.

What are the greatest challenges that your organisation faces over the next five years?

We need to become financially independent as soon as possible. We are here for the long term and need to develop resources that enable us to work for our members in a non-partisan way.

What achievement are you proudest of as Chief Executive?

I have been delighted with the feedback we have received about our new journal 'Impact'. The journal is peer reviewed and is already attracting the attention of the global education research community. Really importantly, we are also publishing articles from teachers.

If you were stuck in a lift with a government minister, what three things would you ask for on behalf of your sector?

1. Recognise that the teaching profession does not need to be 'fixed'. We simply need to be listened to and trusted to learn through collaboration and collective endeavour.
2. Provide funding for education across all sectors and recognise the vital importance of high quality early years provision.
3. Listen to young people and act upon their concerns.

"I have always been restless to do as much as possible to build more respect between adults and children. As a society, I believe we need to listen to children much more carefully."





TEACHERS ARE POSITIVE ABOUT SCIENCE PRACTICALS

We believe that practical work is at the heart of science education, so it is vital that practical skills are assessed in a way that enables students to experience a wide range of practical activities. Having championed the need to change assessment in the interests of nurturing young scientists, we are equally keen to assess the impact of the reform. According to OCR's latest research, teachers are positive about the changes too.

At the start of the A Level Science reform process, OCR and its parent organisation Cambridge Assessment, argued for a radical change to practical science assessment. The research we had done showed that the old coursework model didn't work well as an assessment or support good teaching and learning of practical skills.

The changes

For the new Science A Levels, 15% of marks in the written exam papers assess practical skills, while practical work is assessed and reported separately to the A Level grade as a pass/fail 'endorsement'. In each of the three sciences, students are required to complete practical activities from 12 different areas. The new endorsement approach aims to support students to develop competency in a key range of techniques and allows teachers to better integrate effective practical work into their teaching. This summer, the first students were examined in the new Science A Levels and the first 'practical endorsement' certificates awarded.

A team from OCR – Dr Frances Wilson (Principal Researcher), Neil Wade (Lead Subject Advisor for STEM), and Dr Steve Evans (Head of Product Development) –

has been working to evaluate the changes. In 2015, before the reforms were introduced, they sent out the first of a series of annual questionnaires about practical science in schools, to track any changes in practical work in schools and to find out the impact of the reforms on teaching and learning. This was repeated in 2016 and 2017.

The questionnaire asks teachers about three main areas:

- **What do teachers believe the purpose of practical science to be?**
- **What types of practical science activity do they undertake?**
- **What is the impact of the reform of practical science assessment on teaching and learning?**

The results show the endorsement model is working well and supporting the teaching and learning of theory better than the 'legacy' A Level.

Teachers identified some of their most important reasons for doing practical work as; to develop manipulative skills and techniques, to develop data skills, to encourage accurate observation skills, and to develop conceptual understanding.

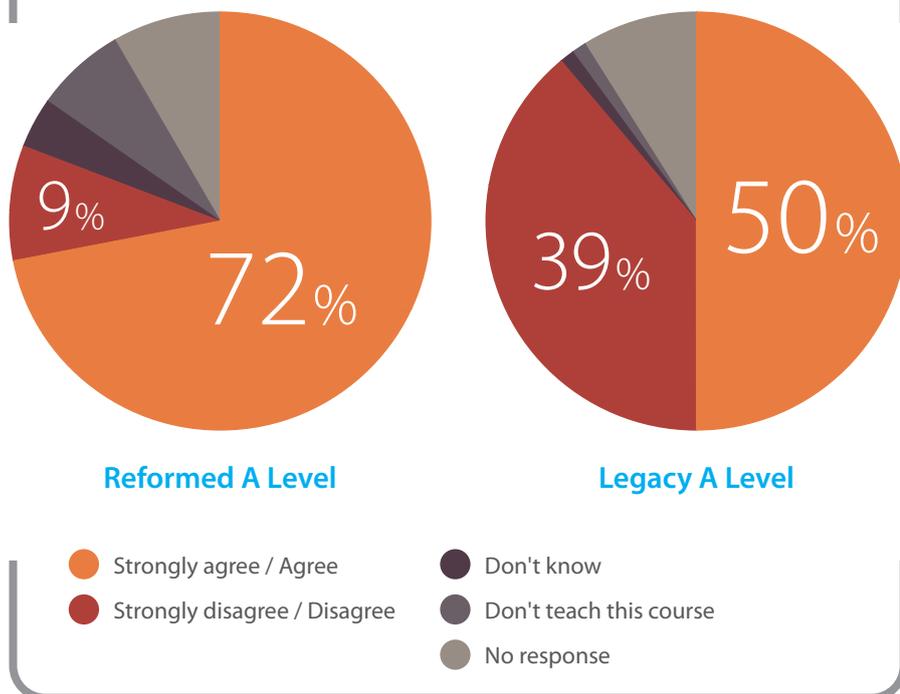
We asked teachers whether the assessments had a positive or negative impact on teaching and learning of theory at A Level.

Comparing results from 2015 (legacy model) and 2016 (reformed A Level), teachers were more positive about the reformed model than the old model.

After teaching the new A Levels for a year, **73% of teachers said they were positive or strongly positive about the impact on teaching and learning of theory**. The percentage of teachers who were negative or strongly negative about the changes dropped dramatically from 39% to 8%.

Similarly, teachers were much more likely to agree that the reformed A Levels encouraged them to undertake a wide range of practical activities with their students, compared to the legacy A Level. **72% of teachers agreed or strongly agreed that the new assessment model was supporting the breadth of practical work. The percentage of teachers who disagreed or strongly disagreed also dropped from 39% to 9%** (see chart above right).

Do the assessment models used at A Level encourage you to undertake a wide range of practical activities?



"The freedom to concentrate on skill development and watch the individuals build in confidence as they move through the course is a breath of fresh air from the rigid nature of the controlled assessment of the previous specification. The collaborative nature of practical work is one all students enjoy. The time we can now spend discussing the work and seeing the students supporting each other brings us back to our core purpose of teaching and learning rather than jumping through hoops. The outcome is a better overall scientist, one who can begin their apprenticeship or degree course with the skills and confidence they need for the future."

Lesley Newnham
 Head of Science
 William Farr School, Lincoln

Teachers' comments from our questionnaire:

"The reformed A-level practical approach is really good. Our Y12 students' practical abilities have significantly improved over the year and are now above those of the leaving legacy Y13."

"Much prefer the new system of practical work at both A Level and GCSE as teachers now have freedom to carry out more meaningful practical work, rather than teaching students to 'jump through hoops'."

"Greater emphasis on analysis and evaluation is good as it really makes students think about the results/method rather than just following teacher instructions."

What's next for practical science assessment?

We are currently analysing the findings from the questionnaire sent out in summer 2017. OCR's questionnaire also surveys teachers' views on practical work at GCSE. The first reformed GCSEs in science will be awarded in 2018 so we look forward to sharing those findings about the GCSE reforms soon. Preliminary findings suggest that teachers are positive about the reforms at GCSE too.

OCR is working with our sister exam board, Cambridge Assessment International Education, and a group of science teachers on a new method for ensuring the written exam questions cover a range of practical skills. This research will be presented at the Association for Educational Assessment – Europe conference in Prague this November.

Contact OCR's Science team on 01223 553998, via email at science@ocr.org.uk or follow us on Twitter @OCR_Science

OCR's Practical Endorsement Model

OCR has a flexible model for the practical endorsement which means teachers can choose the practical activities most suitable for their students, while still providing plenty of support. OCR's 12 Practical Activity Groups (PAGS) allow teachers to choose from a list of suggested practicals or use their own ideas.

Here's some of the excellent feedback about OCR's approach that we gathered as part of our research:

"Completed over 10 PAG tasks this year. All have worked and been easy to organise. Keep up the good work OCR!"

"The PAG system at A Level has been a great step forward in systematically equipping all the students with the practical skills that they will need if they take the sciences at degree level."

If you are interested in learning more about the Practical Endorsement, there's lots of resources and support available on OCR's Positive About Practical page: www.ocr.org.uk/positiveaboutpractical

KNOW YOUR AGQs FROM YOUR T LEVELS?

PAUL STEER, OCR'S HEAD OF POLICY, PUTS THESE POST 16 VOCATIONAL OPTIONS SIDE BY SIDE



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'Applied General Qualifications' (AGQs) are here to stay – that was the decision of a DfE review in March 2017. If you are confused by this, AGQs are Level 3 vocational qualifications typically studied at key stage 5. One of the most prominent examples is OCR's Level 3 Cambridge Technicals.

However, in the Chancellor's Spring 2017 budget, funding for the introduction of 'T Levels' was announced. These are technical qualifications to be developed as the result of the recommendations of a review of technical education chaired by Lord Sainsbury. Once T Levels have been developed, young people will be given new choices about the post 16 vocational provision on offer.

The first option is the academic route. Predictably this includes A Levels but it also includes AGQs. AGQs are vocational qualifications designed to enable access and progression to higher education. (You may have read on page 6 about two students with OCR's Cambridge Technicals in Engineering who have just started engineering degrees at Cambridge University).

The second option, the technical route, includes a work-based apprenticeship option and the more 'study-based' T Levels. The technical route is designed to prepare people for further employment and training. As Sainsbury puts it: "A [technical] programme must focus on progression into skilled employment and require the acquisition of both a substantial body of technical knowledge and a set of practical skills valued by industry."

Differently defined sectors

Those opting for the technical route can choose from sectors ranging from Agriculture, Environmental and Animal Care, to Transport and Logistics. These disrupt some of the sector

groupings traditionally used in further education. For example, health and social care now finds itself split between social care and health and science.

AGQs are not bound by the 15 sectors. Typical AGQ subjects include health and social care, engineering and sport. Furthermore, a young person opting for a particular AGQ is not necessarily making a choice about their future career. They could go on to study something different.

Two year programmes

Whereas some AGQs are large enough to take up a whole two year programme of study, they also come in smaller sizes which can be taken alongside a clutch of A Level subjects. T Levels, however, will always take up the major part of a 16-19 programme alongside maths and English and a substantial period of work placement.

Like AGQs, T Levels are mainly envisaged as Level 3 qualifications to be taken over two years. The plan is that there should be higher level technical qualifications to support progression through each of the 15 routes.

Within the technical routes, there will be a common core for the first year of study. This will allow individuals to develop a broad set of knowledge, skills and behaviours common to the range of occupations within that route. In their second year, individuals will specialise. An example given by Sainsbury is of someone studying a common core for construction in the first year and then specialising in stone masonry. This provides a hint of how varied and numerous the range of technical specialisms might be.

AGQs do not require the level of specialisation expected of T Levels. However, the knowledge requirements and the ability to apply these critically is

likely to be a greater feature of AGQs than you would expect to see in the 'common core' for T Levels.

Certificates

Sainsbury recommends that individuals taking T Levels should receive a certificate that captures their experience 'in the round'. This should include a grade for a T Level component, an indication of the chosen specialism, details of maths and English attainment, and details of the work placement undertaken. By contrast, AGQs are certificated as standalone qualifications, separate from other qualifications and other activities that may feature in a young person's programme of study.

Development and implementation

T Levels will be developed by panels of employers under the direction of a new body called the Institute for Apprenticeships and Technical Education (IfATE). IfATE will franchise the awarding of qualifications to a single body for each of the routes. The first qualifications, according to the current timetable, will be available for teaching from September 2020. This looks ambitious given the scale and breadth of what is proposed.

AGQs are qualifications that already exist with an established track record. However, in recent years they have been modified to include a greater proportion of external assessment. Following the DfE review, Ofqual has been asked to look at strengthening and standardising the range of qualifications that fall into the AGQ category.

So there is much work to be done before any technical education route is fully embedded. While it is early days, it is vital that clear, objective advice and guidance is available to young people about their options and the implications of the choices they make.

JOIN OCR AT THESE EXHIBITIONS AND CONFERENCES AUTUMN/WINTER 2017/8

NOVEMBER

14 – 15

AoC Annual Conference

ICC, Birmingham

OCR is returning to exhibit at the Association of Colleges (AoC) Annual Conference, one of the biggest events in the further education calendar. Visit us on Stand 63 and find out about our Cambridge Technical Level 2 and 3 vocational qualifications and how they can provide a high quality alternative to A Levels or an equivalent BTEC.

www.aocannualconference.co.uk

15

PiXL History Conference

Central Hall, Westminster

Join us at the next PiXL History Conference where we will be presenting a KS5 breakout session and exhibiting. Our breakout will be an opportunity to hear about our findings following the first delivery of our new A Level History specification.

www.pixl.org.uk

22

PiXL Geography Conference

Central Hall, Westminster

At the PiXL Geography Conference, we will be presenting two breakout sessions covering KS4 and KS5, as well as exhibiting. Our breakouts will be an opportunity to hear about our findings following the first delivery of our new GCSE and A Level specifications.

www.pixl.org.uk

JANUARY

3 – 6

ASE Annual Conference

University of Liverpool

OCR is delighted to support this major annual event, the Association for Science Education (ASE) Annual Conference and Exhibition. More than 3,000 science educators are expected to enjoy a comprehensive programme of speakers, CPD and workshops, as well as visiting the exhibition marquee.

Visit OCR on Stand D19 to speak to our team of science subject advisors. Come along to one of our workshops to see how OCR can support your teaching of our extensive range of GCSE and A Level Science qualifications. We look forward to seeing you there!

www.ase.org.uk

CPD Hub
Your route to OCR's teacher training

To find out about the wide range of online and face to face CPD events we are providing in 2017/18 to support the teaching of OCR's qualifications, take a look at www.cpdhub.ocr.org.uk.

To join OCR at these events, visit www.ocr.org.uk/events to find out more



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