



## **ENERGY COAST UTC**

### **LEARNING, TEACHING AND TRAINING POLICY**

**2020-2023**

“Teaching is more than imparting knowledge, it is inspiring change. Learning is more than absorbing facts, it is acquiring understanding.”

William Arthur Ward

**Approved:** Curriculum and Standards Committee

**Signed:** Chair of Committee

**Date:** February 2020

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**Revision History:**

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<b>3</b>	<b>February 2020</b>	<b>ICR</b>	<b>Review</b>
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## **Aims of the Policy**

The Learning, Teaching and Training Policy aims to provide a framework for ensuring Energy Coast UTC (ECUTC) will:

- Offer a consistent approach to learning, teaching and training across the College;
- Raise standards;
- Raise levels of achievement;
- Raise students' expectations of their own performance;
- Maintain the highest standards of behaviour in all aspects of UTC life;
- Offer every student the opportunity to become an effective student and to succeed academically, socially, culturally and physically;
- Have a learning environment and practices which are inclusive;
- Develop the following key aspects of learning: enquiry, problem solving, creative thinking, information processing, reasoning, evaluation, self-awareness, reflection, motivation, empathy, social skills and communication.

All members of ECUTC staff have a responsibility to work with students in a variety of ways. This may be to enable them to pass an examination, develop a technical skill or behave in an appropriate manner, but these are viewed by all members of staff as important in developing the student and helping them to reach their potential. The policy applies to all teaching staff, Personal Learning Mentors (PLMs) at the UTC and staff at the training providers, Lakes College.

## **Expectations**

All members of staff should:

- Work with a sense of common purpose and show commitment to a shared vision;
- Value students' achievements and high standards of attainment;
- Believe that all students can learn and be successful;
- Be open to continuous learning themselves;
- Have a shared and developing understanding of how students learn;
- Establish effective systems to check that learning is taking place as effectively as possible in order to facilitate general and individual improvements in learning and teaching;
- Recognise there are variables that can effect an individual student's ability to learn e.g. social skills and behaviour, access to appropriate resources, cognitive skills;
- Make appropriate provision for individual and groups of students e.g. those with Special Education Needs or Disabilities (SEND), High Prior Attaining (HPA) students, those for whom the Pupil Premium (PP) applies or students in the care system (CLA or Children Looked After).

All members of staff should have the highest expectations of all students. They should expect students to:

- Be prepared for sessions by having the correct equipment;
- Take pride in their work;
- Make a positive contribution to discussions and activities;
- Take responsibility for their own learning;
- Ask for help if required;
- Be fully engaged in the session;
- Be sensitive and respectful of the needs of others;
- Use higher order questioning, thinking and communication skills;

- Extend their learning beyond ECUTC into the workplace environment and community.

**N/B** All qualified teachers are also expected to meet all of the DfE's Teachers' Standards (2012) – see **Appendix A** for further details. Other colleagues who do not have Qualified Teacher Status (QTS) may have their own professional standards and will be expected to adhere to these where present.

### **Planning and Preparation**

- All sessions will have a clearly defined learning objective or multiple objectives;
- The objectives will be written or phrased so as to be measurable within the session, making it clear the knowledge, understanding or skills that students will develop and/or consolidate in the session;
- The objectives will be such that, if achieved, they will demonstrate better than expected progress for all students;
- The objectives will be shared with students in such a way that ensures all students can explain what they are learning and how this builds on prior learning;
- Teachers will also make regular, clear, logical links to the College's agreed list of Employability Skills in line with agreed Long Term Plans (LTPs);
- If a PLM is present they will be able to explain what their role is in helping specific students or a group of students to meet the learning objectives;
- Teachers' excellent subject knowledge will ensure that planning provides for all students to make outstanding or at least good, progress;
- Trainers' excellent technical subject knowledge will ensure that planning provides for all students to make outstanding or at least good, progress.
- All teachers will maintain up-to-date Learning and Teaching (L&T) records as per current College protocols for L&T files.

### **Learning**

There will be high expectations in all sessions and standards of behaviour will be clearly defined for all students, within the UTC, at Gen 2 and Lakes College and in the workplace, with a clear system of appropriate rewards in line with the Rewards Policy and sanctions in line with the Behaviour Policy;

- The session will be structured;
- All students will know their target grade and know what they need to do to achieve it.
- Activities and strategies are used which:
  - Ensure that students are learning and gaining and /or consolidating new knowledge, concepts and/or skills from the beginning of the session;
  - Allow students to use a variety of learning styles;
  - Allow students to work both independently and collaboratively and contribute to each other's learning;
  - Use positive behaviour management and encouragement for students to achieve, including praise and rewards;
  - Allow students to meet the learning objectives with clear outcomes that will demonstrate that objectives have been met;
  - Allow students to maintain concentration, motivation and application by staying on task for the vast majority of the session;
  - Allow students to develop and practise higher order thinking skills such as creativity, analysis, problem solving, decision making and application;
  - Are differentiated for varying needs by task, resources, outcomes and/or method;
  - Provide pace and challenge for all students.

- Make regular, clear, logical links to Engineering and other areas of the curriculum wherever possible and in line with agreed Long Term Plans (LTPs)

### **Effective Questioning**

- Questioning will be regularly used to gauge students' understanding linked to learning objectives;
- Questioning will be largely open, challenging students to think;
- Questioning will rarely be closed other than to gauge the basic knowledge and understanding or to recall prior knowledge;
- Students will be given thinking/reflection and discussion time to encourage deeper thinking.

### **Assessment of Students' Progress**

- Assessment of students' progress will be on-going throughout the session;
- Oral and written feedback to students will relate directly to their progress towards meeting the learning objectives and will enable them to identify their next steps towards meeting those objectives;
- Students will have regular access to success criteria in the form of student-friendly level/grade rubrics and mark schemes in order to assess and monitor their own progress;
- Students will be able to identify and articulate the level/grade they are currently working at, their target grade/level and the next steps they need to take to move towards meeting the target.
- See 'AFL (Assessment for Learning) and Marking Policy' for further details.

### **Resources**

- The equipment and resources available for students to use will be of the type, standard and quality that can be expected in the professional workplace;
- Resources will be used to help all students make progress and will therefore be suitably matched to students' needs;
- Specifically, technology and IT resources will:
  - Be used appropriately and will enable all students to make progress;
  - Be used to provide IT skills that directly relate to employment from a business and technical perspective;
  - Facilitate a problem solving approach to learning, developing critical thinking and analysis;
  - Provide a personalised approach that allows students to take control of their own learning;
  - Provide an inclusive environment that is capable of supporting all needs.

### **Monitoring and Evaluation of the Quality of Learning**

Monitoring and evaluation takes place principally through moderation and scrutiny of students' work, lesson observations and analysis of student progress data. Formal reviews of learning take place as identified in the annual QA Cycle. Judgements will be reached using agreed parameters (see **Appendix B** for further details).

The reviews may focus on a particular group of students e.g. SEND, HPA, PP and CLA on particular issues or to offer support where the need for development at an individual, whole directorate or whole College level has been identified.

The purpose of reviews is to:

- Identify and share good practice;
- Track the progress of all groups of students, including identified groups;
- Identify aspects of pedagogy for development by teams or for ECUTC as a whole;
- Identify any staff in need of particular support;

- Standardise monitoring procedures, including session observation and work scrutiny.

Monitoring and evaluation of learning, progress and outcomes is the responsibility of all teachers and PLMs.

### **Responsibilities**

**Directors of Learning (DoL)** are responsible for ensuring the effective delivery of all subjects in their directorate, evaluating the quality of delivery and standards of students' achievements and setting targets for improvement.

They must:

- Evaluate learning and the planning of sessions in order to lead action for improvement;
- Ensure curriculum coverage and progress for all students;
- Establish and implement clear practices for assessing, recording and reporting on student progress and setting targets in line with College policy;
- Analyse and interpret data on students' progress against ECUTC expectations and other comparative data;
- Monitor students' progress by work scrutiny to ensure quality, consistency and to implement strategies for improvement;
- Observe the teaching of staff within their directorate and give constructive feedback following agreed procedures. This will inform the Performance Management process of their directorate staff.

**Teaching staff** are responsible for the progress of students in their teaching groups and for self-evaluating their own professional development.

They achieve this by:

- Self-evaluating their own subject knowledge;
- Self-evaluating the quality and effectiveness of their own performance;
- Working with colleagues to improve their pedagogical skills;
- Learning from best practice at other engineering UTCs.

**Staff at external training providers** are responsible for the progress of students in their groups and for self-evaluating their own professional development. They achieve this by:

- Self-evaluating their professional skills and understanding their relevance and importance within the curriculum at ECUTC;
- Self-evaluating the role they play in delivering successful outcomes for students;
- Self-evaluating the quality and effectiveness of their own performance;
- Working with colleagues, including teaching, training, technical and support staff, to improve their pedagogical skills;
- Learning from best practice at other engineering UTCs.

**Personal Learning Mentors** are responsible for contributing to the progression and well-being of students and for providing support and advice both academically and pastorally.

### **QA Review Meetings**

The Principal and members of SLT have regular scheduled meetings with subject leaders to:

- Scrutinise the directorate SEF and Improvement Plan;
- Monitor the effectiveness of leadership and management of their curriculum areas;

- Analyse performance data and set targets for improvement;
- Give support and enable personalised CPD;
- Ensure the quality of standards and verify the judgements of Directors of Learning.

### **Monitoring Impact and Review**

The consistent application and enforcement of an effective policy and the resulting procedures by all staff, with suitable monitoring to ensure this, will improve the achievement of individual students, groups of students and thus contribute to the College profile overall;

The implementation, co-ordination and monitoring of the Learning, Teaching and Training Policy is the responsibility of the Principal working with the Governing Body.

### **Training**

#### **Internal CPD provision**

Continuous professional development is essential for all teachers, irrespective of experience or proficiency. The best form of training is usually provided by colleagues who work with the same students and who can achieve great results through clever T&L strategies which they can share with others. It is for this reason that as many of our CPD sessions on the QA calendar as possible are focused on sharing good practice between colleagues.

The CPD sessions on Monday evenings are arranged a term in advance and are designed to address whole school priorities as well as being flexible enough to respond to more urgent developments.

#### **Coaching**

The teaching staff at the ECUTC are encouraged to use the T-GROW model of coaching (Theme, Goal, Reality, Options, What next?) to dissect any Learning and Teaching issues with one another, especially when a Director of Learning is feeding back to a colleague after a lesson observation, learning walk or work scrutiny. This approach is known to have significantly more impact on long term practice than imposed directives.

#### **External training provision**

We also recognise that some external expertise is needed which is why the ECUTC directs one person from each subject specialism to attend the termly West Cumbrian Subject Leaders' Network meetings, where good practice across schools is also shared as well as joint standardisation of essays, coursework, etc.

Furthermore, we encourage as many colleagues as possible to become exam board moderators so that standardisation of the students' work at the UTC is as per national standards.

Finally, we also encourage the sharing of good practice between the ECUTC and other schools on a long-term basis, working with Teaching Schools across Cumbria to support any subject in the ECUTC which is in need of such focused intervention. These interventions are arranged, monitored and their impact evaluated by SLT.





## PREAMBLE

Teachers make the education of their pupils their first concern, and are accountable for achieving the highest possible standards in work and conduct. Teachers act with honesty and integrity; have strong subject knowledge, keep their knowledge and skills up-to-date and are self-critical; forge positive professional relationships; and work with parents in the best interests of their pupils.

## PART ONE: TEACHING

A teacher must:

### 1 Set high expectations which inspire, motivate and challenge pupils

- establish a safe and stimulating environment for pupils, rooted in mutual respect
- set goals that stretch and challenge pupils of all backgrounds, abilities and dispositions
- demonstrate consistently the positive attitudes, values and behaviour which are expected of pupils.

### 2 Promote good progress and outcomes by pupils

- be accountable for pupils' attainment, progress and outcomes
- be aware of pupils' capabilities and their prior knowledge, and plan teaching to build on these
- guide pupils to reflect on the progress they have made and their emerging needs
- demonstrate knowledge and understanding of how pupils learn and how this impacts on teaching
- encourage pupils to take a responsible and conscientious attitude to their own work and study.

### 3 Demonstrate good subject and curriculum knowledge

- have a secure knowledge of the relevant subject(s) and curriculum areas, foster and maintain pupils' interest in the subject, and address misunderstandings
- demonstrate a critical understanding of developments in the subject and curriculum areas, and promote the value of scholarship
- demonstrate an understanding of and take responsibility for promoting high standards of literacy, articulacy and the correct use of standard English, whatever the teacher's specialist subject
- if teaching early reading, demonstrate a clear understanding of systematic synthetic phonics
- if teaching early mathematics, demonstrate a clear understanding of appropriate teaching strategies.

### 4 Plan and teach well structured lessons

- impart knowledge and develop understanding through effective use of lesson time
- promote a love of learning and children's intellectual curiosity
- set homework and plan other out-of-class activities to consolidate and extend the knowledge and understanding pupils have acquired
- reflect systematically on the effectiveness of lessons and approaches to teaching
- contribute to the design and provision of an engaging curriculum within the relevant subject area(s).

### 5 Adapt teaching to respond to the strengths and needs of all pupils

- know when and how to differentiate appropriately, using approaches which enable pupils to be taught effectively
- have a secure understanding of how a range of factors can inhibit pupils' ability to learn, and how best to overcome these
- demonstrate an awareness of the physical, social and intellectual development of children, and know how to adapt teaching to support pupils' education at different stages of development
- have a clear understanding of the needs of all pupils, including those with special educational needs; those of high ability; those with English as an additional language; those with disabilities; and be able to use and evaluate distinctive teaching approaches to engage and support them.

### 6 Make accurate and productive use of assessment

- know and understand how to assess the relevant subject and curriculum areas, including statutory assessment requirements
- make use of formative and summative assessment to secure pupils' progress
- use relevant data to monitor progress, set targets, and plan subsequent lessons
- give pupils regular feedback, both orally and through accurate marking, and encourage pupils to respond to the feedback.

### 7 Manage behaviour effectively to ensure a good and safe learning environment

- have clear rules and routines for behaviour in classrooms, and take responsibility for promoting good and courteous behaviour both in classrooms and around the school, in accordance with the school's behaviour policy
- have high expectations of behaviour, and establish a framework for discipline with a range of strategies, using praise, sanctions and rewards consistently and fairly
- manage classes effectively, using approaches which are appropriate to pupils' needs in order to involve and motivate them
- maintain good relationships with pupils, exercise appropriate authority, and act decisively when necessary.

### 8 Fulfil wider professional responsibilities

- make a positive contribution to the wider life and ethos of the school
- develop effective professional relationships with colleagues, knowing how and when to draw on advice and specialist support
- deploy support staff effectively
- take responsibility for improving teaching through appropriate professional development, responding to advice and feedback from colleagues
- communicate effectively with parents with regard to pupils' achievements and well-being.

## PART TWO: PERSONAL AND PROFESSIONAL CONDUCT

A teacher is expected to demonstrate consistently high standards of personal and professional conduct. The following statements define the behaviour and attitudes which set the required standard for conduct throughout a teacher's career.

- Teachers uphold public trust in the profession and maintain high standards of ethics and behaviour, within and outside school, by:
  - treating pupils with dignity, building relationships rooted in mutual respect, and at all times observing proper boundaries appropriate to a teacher's professional position
  - having regard for the need to safeguard pupils' well-being, in accordance with statutory provisions
  - showing tolerance of and respect for the rights of others
  - not undermining fundamental British values, including democracy, the rule of law, individual liberty and mutual respect, and tolerance of those with different faiths and beliefs
  - ensuring that personal beliefs are not expressed in ways which exploit pupils' vulnerability or might lead them to break the law.
- Teachers must have proper and professional regard for the ethos, policies and practices of the school in which they teach, and maintain high standards in their own attendance and punctuality.
- Teachers must have an understanding of, and always act within, the statutory frameworks which set out their professional duties and responsibilities.

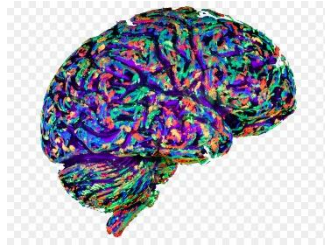
The Teachers' Standards can be found on the GOV.UK website: <https://www.gov.uk/government/publications/teachers-standards>

Grading criteria for data			Grading criteria for work scrutinies		
% of students on flight path	Score	Grading		Score	Grading
0-49%	4	Inadequate	Most and possibly all of the 7 columns are circled 'PARTIALLY' or 'NOT YET' for at least 6 students. There are many 'PARTIALLY's and/or 'NOT YET's circled. There are many 'PARTIALLY's and/or 'NOT YET's in the last 3 columns.	4	Inadequate
50-60%	3	Requires improvement	Many of the 7 columns are circled 'YES' or 'PARTIALLY' for at least 6 students. There are also some 'NOT YET's circled. There may be some 'PARTIALLY's and/or 'NOT YET's in the last 3 columns.	3	Requires improvement
61-80%	2	Good	Most of the 7 columns are circled 'YES' for at least 6 students. There are no 'NOT YET's circled. There may be some 'PARTIALLY's in the last 3 columns.	2	Good
81-100%	1	Outstanding	All 7 columns are circled 'YES' for at least 6 students.	1	Outstanding
			<b>Grading criteria for learning walks</b>		
Student voice				Score	Grading
			The answers to each statement in the top and bottom sections is predominantly 'PARTIALLY's with some 'MOSTLY's and more than one 'NO' in the top section.	4	Inadequate
Qualitative comments will be recorded and passed on to colleagues but no grades will be awarded.			The answers to each statement in the top and bottom sections is a mixture of 'MOSTLY's with some 'PARTIALLY's and no more than one 'NO' in the top section.	3	Requires improvement
			The answers to each statement in the top and bottom sections is mostly 'YES' with some 'MOSTLY's.	2	Good
			The answers to each statement in the top and bottom sections is all 'YES's.	1	Outstanding

## Knowledge retention over time – the UTC approach

### Why students forget - and what you can do about it

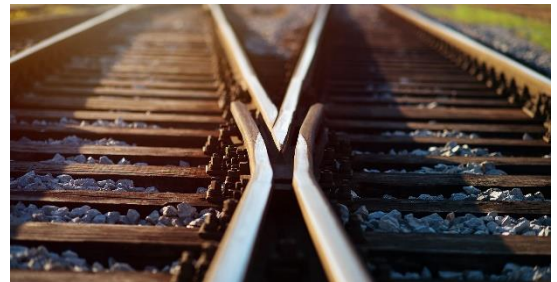
Our brains are wired to forget, but there are research-backed strategies you can use to make your teaching stick. By Youki Terada (September 20, 2017)



Teachers have long known that rote memorization can lead to a superficial grasp of material that is quickly forgotten. But new research in the field of neuroscience is starting to shed light on the ways that brains are wired to forget—highlighting the importance of strategies to retain knowledge and make learning stick.

In a recent article published in the journal *Neuron*, neurobiologists Blake Richards and Paul Frankland challenge the predominant view of memory, which holds that forgetting is a process of loss—the gradual washing away of critical information despite our best efforts to retain it. According to Richards and Frankland, the goal of memory is not just to store information accurately but to “optimize decision-making” in chaotic, quickly changing environments. In this model of cognition, forgetting is an evolutionary strategy, a purposeful process that runs in the background of memory, evaluating and discarding information that doesn’t promote the survival of the species.

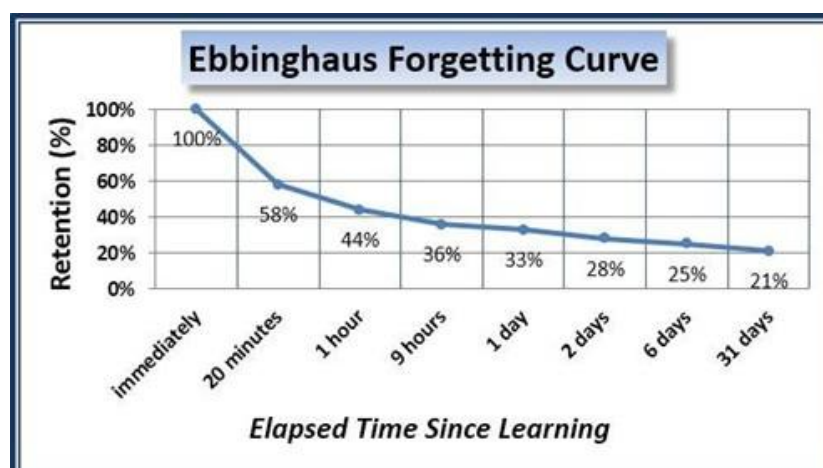
“From this perspective, forgetting is not necessarily a failure of memory,” explain Richards and Frankland in the study. “Rather, it may represent an investment in a more optimal mnemonic strategy.”



#### THE FORGETTING CURVE

We often think of memories as books in a library, filed away and accessed when needed. But they’re actually more like spiderwebs, strands of recollection distributed across millions of connected neurons. When we learn something new—when a teacher delivers a fresh lesson to a student, for example—the material is encoded across these neural networks, converting the experience into a memory.

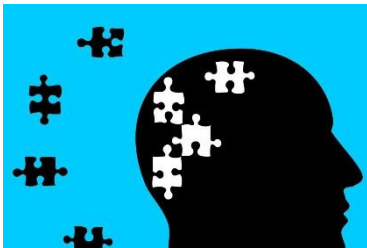
Forgetting is almost immediately the nemesis of memory, as psychologist Hermann Ebbinghaus discovered in the 1880s. Ebbinghaus pioneered landmark research in the field of retention and learning, observing what he called the forgetting curve, a measure of how much we forget over time. In his experiments, he discovered that without any reinforcement or connections to prior knowledge, information is quickly forgotten—roughly 56 percent in one hour, 66 percent after a day, and 75 percent after six days.



So what can be done to preserve the hard work of teaching? After all, evolutionary imperatives—which prune our memories of extraneous information—don’t always neatly align with the requirements of curriculum or the demands of the Information Age. Learning the times tables doesn’t avail when running from lions, in other words, but in the modern world that knowledge has more than proved its mettle.

## THE PERSISTENCE OF MEMORY

The same neural circuitry appears to be involved in forgetting and remembering. If that is properly understood, students and teachers can adopt strategies to reduce memory leaks and reinforce learning.

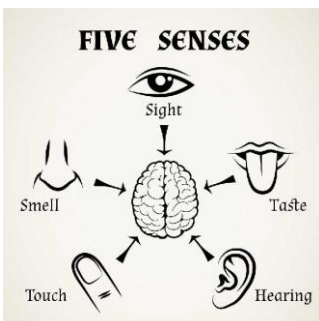


MIT neuroscientists, led by Richard Cho, explain the mechanisms for synaptic strengthening in a 2015 article, also published in *Neuron*. When neurons are frequently fired, synaptic connections are strengthened; the opposite is true for neurons that are rarely fired. Known as synaptic plasticity, this explains why some memories persist while others fade away. Repeatedly accessing a stored but fading memory—like a rule of geometry or a crucial historical fact—rekindles the neural network that contains the memory and encodes it more deeply.

Researchers have also learned that not all new memories are created equal. For example, here are two sets of letters to remember:

**NPFXOSK**

**ORANGES**



For readers of English, the second set of letters is more memorable—the more connections neurons have to other neurons, the stronger the memory. The seven letters in NPFXOSK appear random and disjointed, while ORANGES benefits from its existing, deeply encoded linguistic context. The word oranges also invokes sensory memory, from the image of an orange to its smell, and perhaps even conjures other memories of oranges in your kitchen or growing on a tree. You remember by layering new memories on the crumbling foundations of older ones.

## 5 TEACHER STRATEGIES

When students learn a new piece of information, they make new synaptic connections. Two scientifically based ways to help them retain learning is by making as many connections as possible—typically to other concepts, thus widening the “spiderweb” of neural connections—but also by accessing the memory repeatedly over time.



Which explains why the following learning strategies, all tied to research conducted within the past five years, are so effective:

**Peer-to-peer explanations:** When students explain what they've learned to peers, fading memories are reactivated, strengthened, and consolidated. This strategy not only increases retention but also encourages active learning (Sekeres et al., 2016).



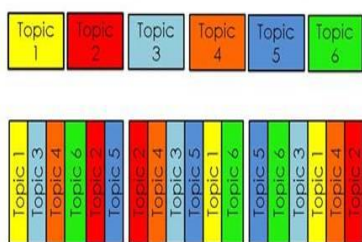
**The spacing effect:** Instead of covering a topic and then moving on, revisit key ideas throughout the school year. Research shows that students perform better academically when given multiple opportunities to review learned material. For example, teachers can quickly incorporate a brief review of what was covered several weeks earlier into ongoing lessons, or use homework to re-expose students to previous concepts

(Carpenter et al., 2012; Kang, 2016).

**Frequent practice tests:** Akin to regularly reviewing material, giving frequent practice tests can boost long-term retention and, as a bonus, help protect against stress, which often impairs memory performance. Practice tests can be low stakes and ungraded, such as a quick pop quiz at the start of a lesson or a trivia quiz on Kahoot, a popular online game-based learning platform. Breaking down one large high-stakes test into smaller tests over several months is an effective approach (Adesope, Trevisan, & Sundararajan, 2017; Butler, 2010; Karpicke, 2016).

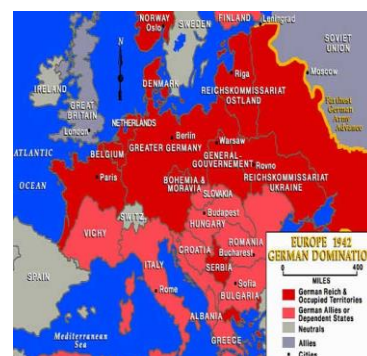


Blocking vs interleaving




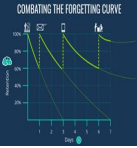

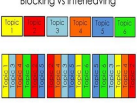

**Interleave concepts:** Instead of grouping similar problems together, mix them up. Solving problems involves identifying the correct strategy to use and then executing the strategy. When similar problems are grouped together, students don't have to think about what strategies to use—they automatically apply the same solution over and over. Interleaving forces students to think on their feet, and encodes learning more deeply (Rohrer, 2012; Rohrer, Dedrick, & Stershic, 2015).

**Combine text with images:** It's often easier to remember information that's been presented in different ways, especially if visual aids can help organize information. For example, pairing a list of countries occupied by German forces during World War II with a map of German military expansion can reinforce that lesson. It's easier to remember what's been read and seen, instead of either one alone (Carney & Levin, 2002; Bui & McDaniel, 2015).



*So even though forgetting starts as soon as learning happens—as Ebbinghaus's experiments demonstrate—research shows that there are simple and effective strategies to help make learning stick.*

Knowledge retention over time staff survey and areas of focus for improvements 2019-20

Knowledge retention over time - directorate survey Sept 2019																	
Approach to knowledge retention	Definition	Exemplifying picture	Science - All	Science - some	Science - just one	Science - no-one	Maths - All	Maths - some	Maths - just one	Maths - no-one	English - All	English - some	English - just one	English - no-one	English - just one	English - no-one	English - just one
1 Peer-to-peer explanations	When students explain what they've learned to peers, fading memories are reactivated, strengthened, and consolidated. This strategy not only increases retention but also encourages active learning (Sekerer et al., 2016).				CLP (paired work & TPS)			Some use in dept.			Used each lesson with links to texts or skills studied						
2 The spacing effect	Instead of covering a topic and then moving on, revisit key ideas throughout the school year. Research shows that students perform better academically when given multiple opportunities to review learned material. For example, teachers can quickly incorporate a brief review of what was covered several weeks earlier into ongoing lessons, or use homework to re-expose students to previous concepts (Carpenter et al., 2012; Kang, 2016).		Q&A as starters from previous year's work				Key Pieces are cumulative, as is on-line work set				Key Pieces are cumulative, as is on-line work set						
3 Frequent practice tests	Akin to regularly reviewing material, giving frequent practice tests can boost long-term retention and, as a bonus, help protect against stress, which often impairs memory performance. Practice tests can be low stakes and ungraded, such as a quick pop quiz at the start of a lesson or a trivia quiz on Kahoot, a popular online game-based learning platform. Breaking down one large high-stakes test into smaller tests over several months is an effective approach (Adesope, Trevisan, & Sundararajan, 2017; Butler, 2010; Karpicke, 2016).		Frequent spelling tests, equation tests, end of unit tests and Key Pieces				5 a day challenge at start of each lesson				HW booklet based on ACC from year 10, then another text after Christmas & 5 do it now questions in class on different texts						
4 Interleave concepts	Instead of grouping similar problems together, mix them up. Solving problems involves identifying the correct strategy to use and then executing the strategy. When similar problems are grouped together, students don't have to think about what strategies to use—they automatically apply the same solution over and over. Interleaving forces students to think on their feet, and encodes learning more deeply (Rohrer, 2012; Rohrer, Dedrick, & Stershic, 2015).		All Key Pieces				Concepts interleaved throughout year as per LTP. Questions rely upon skills previously taught				More difficult in Literature, as topics are separate while skills are interleaved						
5 Combine text with images	It's often easier to remember information that's been presented in different ways, especially if visual aids can help organize information. For example, pairing a list of countries occupied by German forces during World War II with a map of German military expansion can reinforce that lesson. It's easier to remember what's been read and seen, instead of either one alone (Carney & Levin, 2002; Bui & McDaniel, 2015).		Required practicals				Used at some points, e.g. with cubes but not yet frequently enough				Images used alongside texts in literature especially for quotes and key terminology.						