YORKSHIRE CAUSEWAY SCHOOLS TRUST

Principles for Teaching and Learning

July 2025

Yorkshire Causeway Schools Trust is a group of schools working together as an organisation.

"Where everyone is valued and respected, where we share commitment to education that is ambitious, setting the highest expectations and where integrity is the foundation."

Yorkshire Causeway Schools Trust aspires to be a learning organisation in which all staff (teaching and non-teaching) think hard about their practice and take full ownership of it with the intention of developing their expertise throughout their careers. In the context of these principles, "teachers" include all adults involved in helping children to learn.

"Supporting high quality teaching is pivotal in improving children's outcomes." – Education Endowment Foundation, 2021

In the classrooms of the best teachers, students learn at twice the rate they do in the classrooms of average teachers – they learn in six months what students taught by the average teachers take a year to learn. And in the classrooms of the least effective teachers, the same learning will take two years." Wiliam (2010)

To help students learn effectively, teachers understand and apply research-informed 'best bets' about how people learn. Research findings are, however, only one element of being evidence informed. Practitioners need to reflect on evidence and interpret it in the light of their context, and their own and others' experience.

"Every teacher needs to improve, not because they are not good enough, but because they can be even better." Dylan Wiliam keynote speech at the SSAT Conference

Teaching is a complex, demanding skill that can be improved with practice. The more knowledge teachers have about how pupils learn, the more informed they can be about the decisions they take. Highly effective teachers may appear to teach effortlessly but this is due to expertise which can be developed through conscious effort and feedback.

Every change of pupils, curriculum or context requires teachers to adapt and acquire new knowledge, so all teachers need to continually develop their expertise throughout their careers.

The research summaries that inform this document **(Appendix A)**, and with which all teaching staff in Yorkshire Causeway Schools Trust should be familiar, are:

- A Model for Great Teaching handout from the Evidence Review Great Teaching Toolkit June 2020 (Rob Coe C.J. Rauch Stuart Kime Dan Singleton).
- Tom Sherrington's summary of the Principles of Instruction: Research-Based Strategies Every Teacher Should Know: Barak Rosenshine (2012)

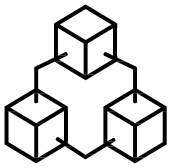
These principles should be interpreted in conjunction with the Trust's assessment principles and curriculum design principles. *The sequence below does not constitute an order of importance or effectiveness. It is recognised that the principles overlap and influence each other.*

In the context of these principles, "teachers" includes all adults involved in helping children to learn.

1. **Learning takes place most effectively when teachers create a climate combining low threat and high expectations, based on positive relationships and clear rules and routines.**

2. **All pupils know exactly what they need to do, and teachers ensure that students focus on what is to be learned.**

3. **Teachers require deep knowledge of the subject they teach, the ways that students think about the content, and the most effective means of teaching it.**



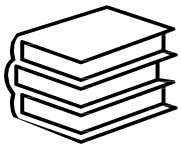
4. **Teachers connect prior knowledge to new information, creating and modifying schemas, checking for understanding, identifying, and addressing misconceptions.**

5. **Teachers develop fluency by giving students practice in using and retrieving information.**

6. **Careful assessment, at all stages of the process, is used to enable learning.**

7. **The curriculum, and its delivery, are carefully planned so that all pupils can succeed.**

8. **Learning takes deliberate effort. It takes place over time and forgetting is part of this process.**



9. **The key to unlocking the curriculum is literacy. Reading enables pupils to acquire knowledge and build on what they already know. High quality oracy practices deepen understanding and improve academic outcomes.**

10. **Metacognition. Teachers deliberately model how to learn as well as what to learn; they teach pupils to plan, monitor and evaluate their own learning.**

1. Learning takes place most effectively when teachers create a climate combining low threat and high expectations, based on positive relationships and clear rules and routines.

A teacher's abilities to make efficient use of lesson time, to coordinate classroom resources and space, and to manage students' behaviour with clear rules that are consistently enforced, are all relevant to maximising the learning that can take place. These environmental factors are necessary for good learning rather than its direct components. (WHAT MAKES GREAT TEACHING? - Sutton Trust.) Robert Coe, Cesare Aloisi, Steve Higgins and Lee Elliot Major (2016)

Teachers create a safe learning environment with positive teacher/pupil and pupil/pupil relationships. All adults behave calmly and have consistent expectations. Positive language is used, emphasising common purpose, with kindness and gratitude the default interactions. Lesson time is used efficiently. Good behaviour is noticed and praised. The classroom should be characterised by both trust and challenge. Teachers are patient and insistent on high standards.

In such an environment, pupils will be willing to take risks and challenge themselves, helping them achieve at a high level and fulfil their potential.

Students benefit from high expectations, predictable classroom routines, clear guidance and consistently enforced rules. Teachers should help pupils to observe the connections between their learning behaviour and their accomplishments.

Students tend to enjoy learning and to do better when they are intrinsically rather than extrinsically motivated to achieve. Children are unlikely to be intrinsically motivated if they do not have a high degree of success or feel that their efforts are recognised. Feedback focusses on the effort and the learning, not task completion.

Recommended further reading:

High challenge, low threat — Mary Myatt Learning

2. All pupils know exactly what they need to do, and teachers ensure that students focus on what is to be learned.

"Motivation influences the behaviour, learning and life chances of our pupils. Further, it affects the satisfaction and wellbeing of teachers. It is something we should be striving to influence." (Peps McCrae)

"Memory is the residue of thought." (Daniel Willingham)

Teachers influence the motivation to learn in their students. When pupils are motivated, they pay more attention, put in more effort, persist for longer, and work more independently.

For information to enter the working memory, pupils must think about it consciously. People struggle to process multiple stimuli, so teachers aim to reduce distractions in the learning environment.

If pupils have not given their attention to the new learning, and thought hard about it, little learning can take place. Teachers aim for 100% participation through techniques such as No Hands Up, Cold Calling and mini whiteboards.

Teachers believe that all children can master age-appropriate content given time, the right provision and sufficient effort. Children that grasp new concepts quickly are given opportunities to deepen their understanding.

Recommended further reading:

researchED Home Peps McCrea & Caroline Spalding: Leveraging the science of motivation ... - YouTube Is Everyone Thinking? What are they all thinking about? This is THE Key. – teacherhead
Is growth mindset real? New evidence, new conclusions – Improving Teaching

3. Teachers require deep knowledge of the subject they teach, the ways that students think about the content, and the most effective means of teaching.

The most effective teachers have deep knowledge of the subjects they teach, and when teachers' knowledge falls below a certain level it is a significant impediment to students' learning. As well as a strong understanding of the material being taught, teachers must also understand the ways students think about the content, be able to evaluate the thinking behind students' own methods and identify students' common misconceptions. WHAT MAKES GREAT TEACHING? - Sutton Trust. Robert Coe, Cesare Aloisi, Steve Higgins and Lee Elliot Major (2016)

Coe et al. (Coe et al., 2014) found that a teacher's subject knowledge, and their understanding of how pupils handle this subject, has the strongest evidence of impact on student outcomes. Teachers should seek to maintain and develop their subject knowledge throughout their careers.

There are persistent problems that are common to all teachers, for example:

However, expertise is highly domain specific. A teacher can be highly effective at focusing attention with year 8 but struggle with year 9. A teacher can be highly effective at planning lessons that focus pupils' attention on the key knowledge to be understood when teaching Macbeth but far less effective when teaching Hamlet.

Teachers take time to acquire substantive knowledge, disciplinary knowledge and pedagogical knowledge for their subjects. Subject content is carefully placed in a curriculum sequence and broken down into small steps. Teachers make explicit connections between units of work and subjects.

There is strong research evidence that the quality of the instruction provided by teachers has a significant influence on students' learning. Techniques such as questioning, modelling and scaffolding can be improved through observing skilful practice and then practising.

Teachers adapt the means of instruction according to the level of expertise of the learners, using worked examples with novice learners and independent work with expert learners.

Recommended further reading:

A model for the learning process. And why it helps to have one. – teacherhead)

4. Teachers connect prior knowledge to new information, creating and modifying schemas, identifying, and addressing misconceptions.

"I've come to the conclusion Sweller's Cognitive Load Theory is the single most important thing for teachers to know" (Dylan Wiliam)

New things are understood in terms of what we already know. The more relevant prior knowledge students have, the less working memory will be required for a new idea, and the more easily they can process new information. Pupils cannot think well about a topic if they have little factual knowledge about it.

Our working memory capacity is limited (around four ideas), so by storing more in our long-term memory, we can free up working memory capacity (Paas et al., 2004). With careful teaching we can construct schemas, complex architectures of knowledge stored in long-term memory, with a view to automating their use (Paas et al., 2004). Schemas allow individual items of knowledge to be 'chunked' together into an overarching principle or concept and processed as a single element.

Poorly organised information (not connected to previous learning) is difficult to retrieve and easily forgotten. Information in the long-term memory is forgotten quickly unless it is consolidated by being anchored to prior knowledge and revisited regularly in increasingly varied ways.

Recommended further reading:

Principles of memory – Evidence for Educators (wordpress.com)

5. Teachers develop fluency by giving students practice in using and retrieving information.

"*…the aim of all instruction is to alter long-term memory. If nothing has changed in long-term memory, nothing has been learned*" [Kirschner, Sweller and Clark.]

Fluency in the basics is a necessary precursor to higher order thinking. For a relatively complex task, we can reduce the extraneous cognitive load by teaching components to fluency. These can then be used or retrieved from the long-term memory as part of the overall task. For example, securing basic number facts enables a pupil to focus on problem-solving. Daisy Christodoulou uses the analogy of training for a marathon: *You don't start training for a marathon by running marathons. You eat right/sleep right, do short fast runs & slower longer ones. These things look nothing like the end goal. You only run marathons once you've done these things.*

Teachers provide adequate time for guided and independent practice.

Students' knowledge of a concept extends and deepens when they practise it in new situations and contexts.

Recommended further reading and listening:

'Retrieval Practice- What Every Teacher Needs to Know'

Science, Retrieval Practice, and Passion with Adam Boxer, Mind the Gap, Ep. 43 (S2E18) - YouTube

6. Careful assessment, at all stages of the process, is used to enable learning.

"The single most important factor influencing learning is what the learner already knows. Ascertain this and teach them accordingly" David Ausubel - Cognitive Psychologist

Responsive teaching is setting clear goals and planning learning carefully; identifying what students have understood and where they are struggling; responding, adapting our teaching to support students to do better. (Harry Fletcher- Wood)

Teachers use strategies for ascertaining understanding during a lesson – determining prior knowledge and checking for understanding.

It is understood that what has been taught is not the same as what has been learned. Crucially, effective teachers plan and adapt their teaching to respond to what assessment tells them.

(For more information, see the YCST Principles of Assessment)

Recommended further reading:

7 questions you need to ask about assessment (cem.org)

7. The curriculum, and its delivery, are carefully planned so that all pupils can succeed.

"The quality of input, high expectations and staff accountability that we apply to our highest attaining learners is the right of all pupils. "(Nicole Dempsey: ResearchED guide to leadership)

"Learning happens when people have to think hard...It helps teachers to ask questions like, 'Where in this lesson will students have to think hard?" [Robert Coe]

Careful lesson design minimises the irrelevant load (distractions) allowing pupils to direct their capacity to the relevant material. When students' working memory is overloaded, they are unable to retain or process some of the information they have been presented with. Teachers must ensure students focus on a few ideas, processes or pieces of information at a time.

A persistent problem for teachers is the range of previous levels of prior attainment and differing capacities to engage with the work. Lower-attainers may take longer and need more help, but the job of teachers is to '*disrupt the bell curve', not just to preserve it* (Wiliam, 2018). Teachers can plan to scaffold tasks (temporary support) then remove it as ideas and procedures become secure and fluent: by the end, those complex tasks are accessible to all.

For most children, the expectation is that by teaching to the top and providing additional support for those who need it, as well as challenge for those who are capable of greater complexity, all are exposed to a rich and demanding curriculum.

Recommended further reading:

The fundamental unaddressed issue of education – Primary Colour (home.blog)

8. Learning takes deliberate effort. It takes place over time and forgetting is part of this process.

Understanding is remembering in disguise. Understanding can be thought of as the capacity to explain. (Dan Willingham).

It appears that learning and forgetting are both part of how our brains update themselves. Learning adds to what we already know while forgetting updates our memories by making less helpful information less accessible.

Spaced retrieval (waiting longer for forgetting to set in before revisiting material) may be more beneficial for memory than revisiting material too soon (Cepeda et al., 2008).

Although purely remembering facts has some value, deep knowledge is the real goal. Deliberately teaching understanding of concepts through making links, non-examples, discussion, questioning, etc. allows pupils to apply their knowledge to different scenarios.

Concepts are learned through actual examples and reinforced through being revisited in different contexts.

Recommended further reading:

Understanding forgetting – Evidence for Educators (wordpress.com)

Why Testing Shouldn't Be the First Response to Last Year's Learning Gaps - ASCD

9. The key to unlocking the curriculum is literacy. Reading enables pupils to acquire knowledge and build on what they already know. High quality oracy practices deepen understanding and improve academic outcomes.

"Through reading in particular, pupils have a chance to develop culturally, emotionally, intellectually, socially and spiritually." English programmes of study: key stages 1 and 2 National curriculum in England

"If you eliminate all the words of a subject, you have eliminated the subject. Biology is not plants and animals. It is language about plants and animals." (Neil Postman)

Learning to read is a challenge that demands expertise from teachers and school leaders. Due to the complexity of our writing system, lots of reading is required for pupils to learn these associations between visual symbols, sound and meaning. Pupils learn aspects of reading at different rates. While the same principles apply to all developing readers, struggling readers require targeted teaching that is sensitive to their specific needs, motivation and self-efficacy.

Oracy is central to learning across the curriculum., deepening understanding, aiding knowledge retention, supporting vocabulary acquisition and developing reasoning skills. Pupils' spoken language and their knowledge of the world is key to fostering their ability to read

Effective teachers prompt students to give explanations and justifications for their answers, to improve an initial response, to describe their thinking processes, to elaborate on their answers, exploring implications, 'what-if's and connections with other ideas and knowledge (Dunlosky et al., 2013; Praetorius et al., 2018). Understanding can be thought of as the ability to explain.

Oracy plays a critical role in supporting young people's wellbeing and mental health by providing students with the skills and opportunities to express their thoughts, feelings and emotions, ask for help, interact effectively and positively with peers and adults, and feel listened to and valued.

Teachers should ensure there is regular, purposeful discussion planned throughout the curriculum, with many opportunities for all children to speak and listen, for a variety of purposes and in a variety of contexts, in pairs, small groups and large groups. Teachers should model ambitious talk and active listening, and promote correct vocabulary, grammar conventions and sentence structures.

Recommended further reading:

Voice 21 – The national oracy education charity

Understanding = Capacity to Explain. Let's use that idea more. – teacherhead

10. Metacognition

Making the thought process visible.

"Too often, we teach students what to think but not how to think." (OECD Insights 2014)

Metacognition makes a unique contribution to learning over and above the influence of intellectual ability. Learners who use metacognitive strategies are likely to be able to achieve more. Research shows that improving a learner's metacognitive practices may compensate for any cognitive limitations they have. (Getting started with Metacognition (cambridge-community.org.uk)

Self-regulated learners are aware of their strengths and weaknesses, and can motivate themselves to engage in, and improve, their learning. Developing pupils' metacognitive knowledge of how they learn—their knowledge of themselves as a learner, of strategies, and of tasks—is an effective way of improving pupil outcomes. Teachers should support pupils to plan, monitor, and evaluate their learning. Research suggests that developing skills in metacognition is particularly helpful for disadvantaged pupils.

Recommended further reading:

Metacognition and self-regulation Archives - impact.chartered.college

Seneca - Learn 2x Faster (senecalearning.com) (Online learning unit: Metacognition for Teachers)

Metacognition and Self-regulated Learning | EEF (educationendowmentfoundation.org.uk)

Making the most of metacognition | Research Schools Network

Potential problems to avoid

FOCUSSING ON THE WRONG THING: Identifying when learning has taken place is not straightforward. Teachers need to think clearly about the learning over a unit of work, recognising that focussing too hard on a single lesson can lead to mistaking being busy or completion of work for embedded learning. Factors that may be desirable in the classroom do not guarantee that learning has taken place.

Robert Coe's 'Poor Proxies for Learning:'

- *Students are busy: lots of (written) work is done*
- *Students are engaged, interested, motivated*
- *Students are getting attention: feedback, explanations*
- *Classroom is ordered, calm, under control*
- *Curriculum has been 'covered'*
- *(At least some) students have supplied correct answers (whether or not they understood or could reproduce them independently)*

DEFICIT MODEL OF ACCOUNTABILITY: we are most likely to improve when we are trusted, supported and encouraged to improve. Accountability does not need to be based on threat or blame. However, to be our best, we need to know that we are accountable for explaining our practice.

GENERIC STRATEGIES: research helps establish the 'best bets' but these have to be interpreted. A trust-wide or a school-wide action step needs to be broken down according to our context and the reality of our schools. The Causeway approach to teacher development is professional discussion, not prescription; done with, not done to.

TOO MUCH AT ONCE: like children, we work best when we focus on a limited number of things. We will need to choose what specific things would have the greatest impact on learning. Be realistic; keep listening; start small; look for quick wins.

WAITING FOR CERTAINTY: don't let perfect be the enemy of good. It is usually better to begin, with an understanding that you might make further improvements at a later date.

EYES DOWN: The business of school life can prevent us from getting the help we need. Take time to sharpen your axe. We need to allow ourselves time to look up and out. Sharing solutions and collaborating, whether online or in person, can be enormously beneficial.

NOT MAKING TIME: we show that we value our personal development by prioritising it – setting up systems, booking in time/meetings in advance, etc. Continuing to improve is a process not an event.

BE PATIENT: there are no silver bullets; just like children, learning as an adult takes time and effort.

Additional recommended further reading:

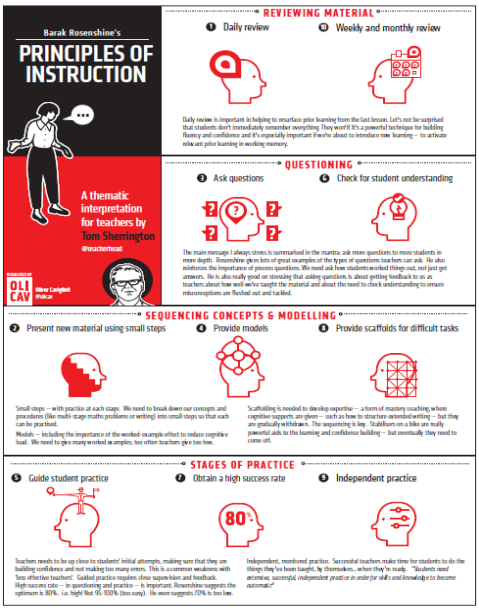
A learning-first approach to improving your teaching – Evidence for Educators (wordpress.com)

4 counterintuitive concepts about how we learn (innerdrive.co.uk)

APPENDIX A

[A Model for Great Teaching handout] from Evidence Review Great Teaching Toolkit June 2020 (Rob Coe C.J. Rauch Stuart Kime Dan Singleton)

Full toolkit here: [584543-great-teaching-toolkit-evidence-review.pdf (cambridgeinternational.org)]



[OliCav *PRINCIPLES OF INSTRUCTION: RESEARCH-BASED STRATEGIES EVERY*

TEACHER SHOULD KNOW: Barak Rosenshine (2012)]

Brief suggestions for deeper reading and resources:

[The Learning Curriculum 3.0 | Ambition Institute

Great Teaching Toolkit: Evidence Review - Evidence Based Education

Rosenshine's Principles in Action (johncattbookshop.com)

INTED2022 - Tom Sherrington. Rosenshine's Principles in Action - YouTube

Kitchen Pedagogy Series 1: Feedback I give to teachers - YouTube

Impact Issues Archive: My College (chartered.college)

ResearchED Blog for Researchers, Teachers and Policy Makers

The Learning Scientists

Unleash the Science of Learning – Retrieval Practice

WalkThrus

What Every Teacher Needs to Know: How to embed evidence-informed teaching and learning in your school: Pearce, Jade: Amazon.co.uk: Books]

GLOSSARY

Curriculum	The content that we teach to students ('Intent' in Ofsted's terminology)
Coherence	The knitting together of knowledge in the curriculum so that seemingly disparate units of work are connected by thematic and conceptual threads.
Core/key knowledge	The essential knowledge that we want students to retain, especially in order to make the next piece of learning possible.
Curriculum as progression model	The idea that the curriculum, when knowledge is specified in detail and laid out in a well-sequenced and coherent manner, is the document that best captures a route to progress within a particular field.
Declarative knowledge	'To know that.' These are the concepts, rules and facts that make up our subject. There is an obvious overlap here with substantive knowledge.
Disciplinary knowledge	Knowledge of the discipline, and knowledge of how information comes to be accepted as fact. In science, this is knowledge of how to conduct an experiment, and the changing of variables to ensure that the experiment is fair.
Hinterland knowledge	Other knowledge that children may acquire as part of a unit of work that adds to 'general knowledge' and may contribute to further developing schema.
Pedagogy	The means by which we teach the curriculum (e.g. exposition, storytelling, retrieval practice, direct instruction).
Procedural knowledge	'To know how.' This is the knowledge that produces action. Solving an equation or balancing an equation both turn declarative knowledge into procedural knowledge.
Progress	The extent to which students have learned the intended curriculum. Progress does not happen in individual lesson chunks, but over time. If students are successfully learning the curriculum, then they are making progress.
Schema	A network of related knowledge that allows new relevant information to be remembered quickly.
Sequencing	The order of material in our curriculum. This should be thought through to allow for knowledge to be built over time.
Substantive knowledge	Knowledge that is considered fact within a particular subject. In a subject like history, these are the dates, individuals, and actions that we can be sure about.