Department for Education

ITT Core Content Framework

Acknowledgements

The Initial Teacher Training (ITT) Core Content Framework was developed in consultation with the following members of an Expert Advisory Group and in collaboration with a wide range of teachers, school leaders, academics and experts:

- Sam Twiselton (Chair) – Sheffield Institute of Education, Sheffield Hallam University
- John Blake – Now Teach
- Becky Francis – Institute of Education, University College London
- Richard Gill – Teaching School Council
- Marie Hamer – Ambition Institute
- Emma Hollis – National Association of School-Based Teacher Trainers
- Reuben Moore – Teach First
- James Noble Rogers – Universities' Council for the Education of Teachers

The ITT Core Content Framework and its underpinning evidence has been independently assessed and endorsed by the Education Endowment Foundation.

Introduction

The Purpose of this Review

The quality of teaching is the single most important in-school factor in improving outcomes for pupils – and it is particularly important for pupils from disadvantaged backgrounds. No one is born a great teacher. Great teachers continuously improve over time, benefitting from the mentoring of expert colleagues and a structured introduction to the core body of knowledge, skills and behaviours that define great teaching.

Our vision is for a teacher training and development system in which:

- The ITT Core Content Framework and the Early Career Framework (ECF) establish an entitlement to a 3 or more year structured package of support for future generations of teachers;
- Mentoring and support from expert colleagues forms a key element of this multi-year entitlement;
- Qualified Teacher Status (QTS) will continue to be awarded at the end of Initial Teacher Training against the Teachers' Standards; and
- The ITT Core Content Framework and the ECF will be reviewed together in future, ensuring reviews are performed regularly, build on previous iterations and draw on the best available evidence.

The ITT Core Content Framework needs to be read in the context of everything in this introduction. The introduction explains how the ITT Core Content Framework was devised and how it should be used by providers when designing their curricula. It contains explanations and definitions that reflect government's expectations of how the ITT Core Content Framework is interpreted by providers.

Using the ITT Core Content Framework

The ITT Core Content Framework – building on and replacing the Framework of Core Content for Initial Teacher Training (2016) – defines in detail the minimum entitlement of all trainee teachers. As with the ECF, the ITT Core Content Framework draws on the best available evidence and has been independently reviewed by the Education Endowment Foundation.

The ITT Core Content Framework does not set out the full ITT curriculum for trainee teachers. The complexity of the process for becoming a teacher cannot be overestimated and it remains for individual providers to design curricula appropriate for the subject, phase and age range that the trainees will be teaching. It will be crucial for providers to ensure trainees have adequately covered any foundational knowledge and skill that is pre-requisite for the content defined in this framework.

In designing their curricula, providers should carefully craft the experiences and activities detailed in the ITT Core Content Framework into a coherent sequence that supports trainees to succeed in the classroom. Providers should ensure their curricula encompass the full entitlement described in the ITT Core Content Framework, as well as integrating additional analysis and critique of theory, research and expert practice as they deem appropriate.

While the ITT Core Content Framework is presented around the Teachers' Standards for clarity, the ITT Core Content Framework is not, and should not be used, as an assessment framework. Trainee teachers will not be expected to collect evidence against the ITT Core Content Framework, and they will continue to be assessed against the Teachers' Standards only.

QTS will continue to be awarded at the end of Initial Teacher Training against the Teachers' Standards.

Design of the ITT Core Content Framework

The ITT Core Content Framework – as with the ECF – has been designed to support trainee development in 5 core areas – behaviour management, pedagogy, curriculum, assessment and professional behaviours. In order to ensure congruence with the 8 Teachers' Standards, the ITT Core Content Framework is presented in 8 sections. In developing the framework, behaviour management is addressed in High Expectations and Managing Behaviour (S1 and S7); pedagogy is addressed in How Pupils Learn, Classroom Practice and Adaptive Teaching (S2, S4, S5); and curriculum, assessment and professional behaviours are addressed in S3, S6 and S8 respectively.

The ITT Core Content Framework sets out two types of content – mirroring the ECF. Within each area, key evidence statements ('Learn that…') have been drawn from current high-quality evidence from the UK and overseas. These 'Learn that…' statements are deliberately the same as the 'Learn that…' statements in the ECF because the full entitlement – across both initial teacher training and early career development – for new entrants to the profession is underpinned by the evidence of what makes great teaching. A full bibliography is provided with suggested reading, which can be shared with trainee teachers to support their critical engagement with research. This evidence includes high-quality reviews and syntheses, including meta-analyses and rigorous individual studies.

In addition, the ITT Core Content Framework details practice statements ('Learn how to…') based on the practice statements in the ECF, but altered so they are appropriate for initial teacher training. Drawing on the expertise of the Expert Advisory Group, these 'Learn how to…' statements have been sorted into two categories. These categories define an entitlement to practise key skills as well as an opportunity to work with and learn from expert colleagues as they apply their knowledge and understanding of the evidence in the classroom.

Throughout the ITT Core Content Framework, key phrases are used repeatedly. Understanding how these terms are defined by the Expert Advisory Group is key to understanding the entitlement defined by the ITT Core Content Framework:

- *Expert colleagues:* Professional colleagues, including experienced and effective teachers, subject specialists, mentors, lecturers and tutors.
- *Practise:* Opportunities to use approaches defined in the 'Learn how to…' column of the ITT Core Content Framework. Throughout their training, trainees should expect multiple opportunities to rehearse and refine particular approaches, possibly beginning outside the classroom before using approaches in classrooms.
- *Discussing and analysing with expert colleagues:* Interrogate with an expert colleague – using the best available evidence – what makes a particular approach successful or unsuccessful, reflecting on how this approach might be integrated into the trainee's own practice.
- *Observing how expert colleagues … and deconstructing this approach:* Working with expert colleagues – using the best available evidence – to critique a particular approach – whether using in-class observation, modelling or analysis of video – to understand what might make it successful or unsuccessful.
- *Receiving clear consistent and effective mentoring:* Receiving structured feedback from expert colleagues on a particular approach – using the best available evidence – to provide a structured process for improving the trainee's practice.

Consideration of SEND, Disadvantage and Mental Health

The ITT Core Content Framework has been designed in the knowledge that the quality of teaching is the most important factor in improving outcomes for pupils – particularly pupils from disadvantaged backgrounds and those with additional needs. As such, the ITT Core Content Framework is designed to help trainee teachers take their first steps towards becoming expert teachers of the future who can transform the lives all pupils.

Careful consideration has been given to the needs of trainee teachers in relation to supporting pupils with Special Educational Needs, encompassing those pupils identified within the four areas of need set out in the Special Educational Needs and Disability

code of practice. As with the ECF, the ITT Core Content Framework is deliberately designed to emphasise the importance of high-quality teaching, which is particularly important for disadvantaged pupils and those with additional needs. For this reason, the ITT Core Content Framework deliberately does not detail approaches specific to particular additional needs – to reflect the importance of quality first teaching – while also providing opportunity for providers to tailor their curricula to the needs of their trainees.

Similarly, the ITT Core Content Framework has been reviewed with consideration with how to best prepare trainee teachers to support pupils with their mental health, including – but not limited to – by creating respectful cultures within their classrooms where pupils feel motivated and valued. Throughout, the ITT Core Content Framework highlights the importance of building strong, positive relationships with pupils – as well as their parents and carers – as a means of supporting all pupils to achieve.

Support for Behaviour Management Training

A key finding of the Carter Review of initial teacher training (2015) was the importance to trainees of high-quality training to improve behaviour management. Whilst this review of the ITT Core Content Framework builds on and replaces the 2016 document, the Behaviour Management Report (2016) remains an important and useful tool for providers designing their ITT curricula. An easy-to-use summary of this review – updated in line with the new ITT Core Content Framework – is provided to support providers in designing their curriculum.

The Importance of Subject Specific Training

The ITT Core Content Framework is designed – as is the ECF – to cover the content required by trainee teachers irrespective of subject or phase. As such, the document does not provide a breakdown of the content to be covered across the various subject-training routes for ITT. There is, however, a strong emphasis on the need for training to be subject and phase specific throughout the framework and it is for providers to ensure they carefully craft coherently sequenced curricula that meet the particular needs of their trainees, including the foundational knowledge of what subjects and curricula are.

As the Teachers' Standards make clear, it is important for teachers teaching early reading and early mathematics to have a clear understanding of systematic synthetic phonics and appropriate maths teaching strategies. It is incumbent on providers to ensure their trainees are trained to meet these standards, so that trainees to whom these standards apply are successfully awarded QTS.

Part 2 of the Teachers' Standards

Part Two of the Teachers' Standards defines the behaviour and attitudes which set the required standard for conduct throughout a teacher's career. These standards must always be met and stand alongside the ITT Core Content Framework, so are not referenced in detail. However, providers should continue to ensure that trainees have a clear understanding of the expectations regarding personal and professional conduct of a teacher and the ethics of the teaching profession. This includes how Fundamental British Values can be upheld in schools and the importance of showing tolerance and respect for the rights of others.

Statutory Duties

In addition to the content detailed in the ITT Core Content Framework, it remains a statutory requirement of providers – as set out in the ITT Criteria – for providers to ensure that their curricula fulfil these statutory duties, including ensuring trainees are fully aware of their duties in respect of safeguarding and equalities legislation.

Ensuring All Trainees Receive their Full Entitlement

The ITT Core Content Framework sets out a minimum entitlement for trainee teachers and places a duty on providers of initial teacher training – and their partner schools – to meet this entitlement.

In the Teachers' Recruitment and Retention Strategy, we made clear our firm belief that teachers deserve high quality support throughout their careers, particularly in those first years of teaching when the learning curve is steepest. This is in line with other esteemed professions like medicine and law. We know the profession shares our belief, which is why the ITT Core Content Framework sets out a detailed articulation of this shared ambition, including how trainees should be supported to manage their own workload and wellbeing whilst they train and as they embark on their career in school.

We will work collaboratively with the profession and ITT providers to support the successful implementation of the entitlement outlined in the ITT Core Content Framework. In addition, we will work closely with Ofsted to ensure that all trainees receive – in full – their entitlement, as part of the carefully crafted and coherently sequenced curriculum designed by their ITT provider.

Department for Education

Education Endowment Foundation

ITT Core Content Framework

The ITT Core Content Framework and its underpinning evidence has been independently assessed and endorsed by the Education Endowment Foundation.

High Expectations (Standard 1 – 'Set high expectations')

Learn that…	Learn how to…
1. Teachers have the ability to affect and improve the wellbeing, motivation and behaviour of their pupils. 2. Teachers are key role models, who can influence the attitudes, values and behaviours of their pupils. 3. Teacher expectations can affect pupil outcomes; setting goals that challenge and stretch pupils is essential. 4. Setting clear expectations can help communicate shared values that improve classroom and school culture. 5. A culture of mutual trust and respect supports effective relationships. 6. High-quality teaching has a long-term positive effect on pupils' life chances, particularly for children from disadvantaged backgrounds.	**Communicate a belief in the academic potential of all pupils, by:** • *Receiving clear, consistent and effective mentoring in how to set tasks that stretch pupils, but which are achievable, within a challenging curriculum.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Using intentional and consistent language that promotes challenge and aspiration.* • *Creating a positive environment where making mistakes and learning from them and the need for effort and perseverance are part of the daily routine.* • *Seeking opportunities to engage parents and carers in the education of their children (e.g. proactively highlighting successes) with support from expert colleagues to understand how this engagement changes depending on the age and development stage of the pupil.* **Demonstrate consistently high behavioural expectations, by:** • *Receiving clear, consistent and effective mentoring in how to create a culture of respect and trust in the classroom that*

	supports all pupils to succeed (e.g. by modelling the types of courteous behaviour expected of pupils). **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Teaching and rigorously maintaining clear behavioural expectations (e.g. for contributions, volume level and concentration).* • *Applying rules, sanctions and rewards in line with school policy, escalating behaviour incidents as appropriate.* • *Acknowledging and praising pupil effort and emphasising progress being made.*

Notes

Learn that… statements are informed by the best available educational research; references and further reading are provided below.

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

How Pupils Learn (Standard 2 – 'Promote good progress')

Learn that…	Learn how to…
1. Learning involves a lasting change in pupils' capabilities or understanding. 2. Prior knowledge plays an important role in how pupils learn; committing some key facts to their long-term memory is likely to help pupils learn more complex ideas. 3. An important factor in learning is memory, which can be thought of as comprising two elements: working memory and long-term memory. 4. Working memory is where information that is being actively processed is held, but its capacity is limited and can be overloaded. 5. Long-term memory can be considered as a store of knowledge that changes as pupils learn by integrating new ideas with existing knowledge. 6. Where prior knowledge is weak, pupils are more likely to develop misconceptions, particularly if new ideas are introduced too quickly.	**Avoid overloading working memory, by:** • *Receiving clear, consistent and effective mentoring in how to take into account pupils' prior knowledge when planning how much new information to introduce.* • *Discussing and analysing with expert colleagues how to reduce distractions that take attention away from what is being taught (e.g. keeping the complexity of a task to a minimum, so that attention is focused on the content).* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Breaking complex material into smaller steps (e.g. using partially completed examples to focus pupils on the specific steps).* **Build on pupils' prior knowledge, by:** • *Discussing and analysing with expert colleagues how to sequence lessons so that pupils secure foundational knowledge before encountering more complex content.* • *Discussing and analysing with expert colleagues how to identify possible misconceptions and plan how to prevent these forming.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Encouraging pupils to share emerging understanding and points of confusion so that misconceptions can be addressed.*

7. Regular purposeful practice of what has previously been taught can help consolidate material and help pupils remember what they have learned. 8. Requiring pupils to retrieve information from memory, and spacing practice so that pupils revisit ideas after a gap are also likely to strengthen recall. 9. Worked examples that take pupils through each step of a new process are also likely to support pupils to learn.	• *Linking what pupils already know to what is being taught (e.g. explaining how new content builds on what is already known).* **Increase likelihood of material being retained, by:** • *Observing how expert colleagues plan regular review and practice of key ideas and concepts over time (e.g. through carefully planned use of structured talk activities) and deconstructing this approach.* • *Discussing and analysing with expert colleagues how to design practice, generation and retrieval tasks that provide just enough support so that pupils experience a high success rate when attempting challenging work.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Balancing exposition, repetition, practice and retrieval of critical knowledge and skills.* • *Increasing challenge with practice and retrieval as knowledge becomes more secure (e.g. by removing scaffolding, lengthening spacing or introducing interacting elements).*

Notes

Learn that… statements are informed by the best available educational research; references and further reading are provided below.

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

Subject and Curriculum (Standard 3 – 'Demonstrate good subject and curriculum knowledge')

Learn that…	Learn how to…
1. A school's curriculum enables it to set out its vision for the knowledge, skills and values that its pupils will learn, encompassing the national curriculum within a coherent wider vision for successful learning. 2. Secure subject knowledge helps teachers to motivate pupils and teach effectively. 3. Ensuring pupils master foundational concepts and knowledge before moving on is likely to build pupils' confidence and help them succeed. 4. Anticipating common misconceptions within particular subjects is also an important aspect of curricular knowledge; working closely with colleagues to develop an understanding of likely misconceptions is valuable. 5. Explicitly teaching pupils the knowledge and skills they need to succeed within particular subject areas is beneficial. 6. In order for pupils to think critically, they must have a secure understanding of knowledge	**Deliver a carefully sequenced and coherent curriculum, by:** • *Receiving clear, consistent and effective mentoring in how to identify essential concepts, knowledge, skills and principles of the subject.* • *Observing how expert colleagues ensure pupils' thinking is focused on key ideas within the subject and deconstructing this approach.* • *Discussing and analysing with expert colleagues the rationale for curriculum choices, the process for arriving at current curriculum choices and how the school's curriculum materials inform lesson preparation.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Providing opportunity for all pupils to learn and master essential concepts, knowledge, skills and principles of the subject.* • *Working with expert colleagues to accumulate and refine a collection of powerful analogies, illustrations, examples, explanations and demonstrations.* • *Using resources and materials aligned with the school curriculum (e.g. textbooks or shared resources designed by expert colleagues that carefully sequence content).* • *Being aware of common misconceptions and discussing with expert colleagues how to help pupils master important concepts.* **Support pupils to build increasingly complex mental models, by:**

within the subject area they are being asked to think critically about. 7. In all subject areas, pupils learn new ideas by linking those ideas to existing knowledge, organising this knowledge into increasingly complex mental models (or “schemata”); carefully sequencing teaching to facilitate this process is important. 8. Pupils are likely to struggle to transfer what has been learnt in one discipline to a new or unfamiliar context. 9. To access the curriculum, early literacy provides fundamental knowledge; reading comprises two elements: word reading and language comprehension; systematic synthetic phonics is the most effective approach for teaching pupils to decode. 10. Every teacher can improve pupils’ literacy, including by explicitly teaching reading, writing and oral language skills specific to individual disciplines.	• *Discussing and analysing with expert colleagues how to revisit the big ideas of the subject over time and teach key concepts through a range of examples.* • *Discussing and analysing with expert colleagues how they balance exposition, repetition, practice of critical skills and knowledge.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Drawing explicit links between new content and the core concepts and principles in the subject.* **Develop fluency, by:** • *Observing how expert colleagues use retrieval and spaced practice to build automatic recall of key knowledge and deconstructing this approach.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Providing tasks that support pupils to learn key ideas securely (e.g. quizzing pupils so they develop fluency with times tables).* **Help pupils apply knowledge and skills to other contexts, by:** • *Observing how expert colleagues interleave concrete and abstract examples, slowly withdrawing concrete examples and drawing attention to the underlying structure of problems and deconstructing this approach.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Ensuring pupils have relevant domain-specific knowledge, especially when being asked to think critically within a subject.*

	Develop pupils' literacy, by: • *Observing how expert colleagues demonstrate a clear understanding of systematic synthetic phonics, particularly if teaching early reading and spelling, and deconstructing this approach.* • *Discussing and analysing with expert colleagues how to support younger pupils to become fluent readers and to write fluently and legibly.* • *Receiving clear, consistent and effective mentoring in how to model reading comprehension by asking questions, making predictions, and summarising when reading.* • *Receiving clear, consistent and effective mentoring in how to promote reading for pleasure (e.g. by using a range of whole class reading approaches and regularly reading high-quality texts to children).* • *Discussing and analysing with expert colleagues how to teach different forms of writing by modelling planning, drafting and editing.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Teaching unfamiliar vocabulary explicitly and planning for pupils to be repeatedly exposed to high-utility and high-frequency vocabulary in what is taught.* • *Modelling and requiring high-quality oral language, recognising that spoken language underpins the development of reading and writing (e.g. requiring pupils to respond to questions in full sentences, making use of relevant technical vocabulary).*
Notes *Learn that…* statements are informed by the best available educational research; references and further reading are provided below.	

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

Classroom Practice (Standard 4 – 'Plan and teach well structured lessons')

Learn that…	Learn how to…
1. Effective teaching can transform pupils' knowledge, capabilities and beliefs about learning. 2. Effective teachers introduce new material in steps, explicitly linking new ideas to what has been previously studied and learned. 3. Modelling helps pupils understand new processes and ideas; good models make abstract ideas concrete and accessible. 4. Guides, scaffolds and worked examples can help pupils apply new ideas, but should be gradually removed as pupil expertise increases. 5. Explicitly teaching pupils metacognitive strategies linked to subject knowledge, including how to plan, monitor and evaluate, supports independence and academic success. 6. Questioning is an essential tool for teachers; questions can be used for many purposes, including to check pupils' prior knowledge, assess understanding and break down problems.	**Plan effective lessons, by:** • *Observing how expert colleagues break tasks down into constituent components when first setting up independent practice (e.g. using tasks that scaffold pupils through meta-cognitive and procedural processes) and deconstructing this approach.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Using modelling, explanations and scaffolds, acknowledging that novices need more structure early in a domain.* • *Enabling critical thinking and problem solving by first teaching the necessary foundational content knowledge.* • *Removing scaffolding only when pupils are achieving a high degree of success in applying previously taught material.* • *Providing sufficient opportunity for pupils to consolidate and practise applying new knowledge and skills.* **Make good use of expositions, by:** • *Discussing and analysing with expert colleagues how to use concrete representation of abstract ideas (e.g. making use of analogies, metaphors, examples and non-examples).* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Starting expositions at the point of current pupil understanding.*

7. High-quality classroom talk can support pupils to articulate key ideas, consolidate understanding and extend their vocabulary. 8. Practice is an integral part of effective teaching; ensuring pupils have repeated opportunities to practise, with appropriate guidance and support, increases success. 9. Paired and group activities can increase pupil success, but to work together effectively pupils need guidance, support and practice. 10. How pupils are grouped is also important; care should be taken to monitor the impact of groupings on pupil attainment, behaviour and motivation. 11. Homework can improve pupil outcomes, particularly for older pupils, but it is likely that the quality of homework and its relevance to main class teaching is more important than the amount set.	• *Combining a verbal explanation with a relevant graphical representation of the same concept or process, where appropriate.* **Model effectively, by:** • *Discussing and analysing with expert colleagues how to make the steps in a process memorable and ensuring pupils can recall them (e.g. naming them, developing mnemonics, or linking to memorable stories).* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Narrating thought processes when modelling to make explicit how experts think (e.g. asking questions aloud that pupils should consider when working independently and drawing pupils' attention to links with prior knowledge).* • *Exposing potential pitfalls and explaining how to avoid them.* **Stimulate pupil thinking and check for understanding, by:** • *Discussing and analysing with expert colleagues how to consider the factors that will support effective collaborative or paired work (e.g. familiarity with routines, whether pupils have the necessary prior knowledge and how pupils are grouped).* • *Receiving clear, consistent and effective mentoring in how to provide scaffolds for pupil talk to increase the focus and rigour of dialogue.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Planning activities around what you want pupils to think hard about.* • *Including a range of types of questions in class discussions to extend and challenge pupils (e.g. by modelling new vocabulary or asking pupils to justify answers).*

	• *Providing appropriate wait time between question and response where more developed responses are required.*

Notes

Learn that… statements are informed by the best available educational research; references and further reading are provided below.

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

Adaptive Teaching (Standard 5 – 'Adapt teaching')

Learn that…	Learn how to…
1. Pupils are likely to learn at different rates and to require different levels and types of support from teachers to succeed. 2. Seeking to understand pupils' differences, including their different levels of prior knowledge and potential barriers to learning, is an essential part of teaching. 3. Adapting teaching in a responsive way, including by providing targeted support to pupils who are struggling, is likely to increase pupil success. 4. Adaptive teaching is less likely to be valuable if it causes the teacher to artificially create distinct tasks for different groups of pupils or to set lower expectations for particular pupils. 5. Flexibly grouping pupils within a class to provide more tailored support can be effective, but care should be taken to monitor its impact on engagement and motivation, particularly for low attaining pupils. 6. There is a common misconception that pupils have distinct and identifiable learning styles. This is not supported by evidence and	**Develop an understanding of different pupil needs, by:** • *Receiving clear, consistent and effective mentoring in supporting pupils with a range of additional needs, including how to use the SEND Code of Practice, which provides additional guidance on supporting pupils with SEND effectively.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Identifying pupils who need new content further broken down.* • *Making use of formative assessment.* • *Working closely with the Special Educational Needs Co-ordinator (SENCO) and special education professionals and the Designated Safeguarding Lead (DSL) under supervision of expert colleagues.* **Provide opportunity for all pupils to experience success, by:** • *Observing how expert colleagues adapt lessons, whilst maintaining high expectations for all, so that all pupils have the opportunity to meet expectations and deconstructing this approach.* • *Discussing and analysing with expert colleagues how to balance input of new content so that pupils master important concepts.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Making effective use of teaching assistants and other adults in the classroom under supervision of expert colleagues.*

attempting to tailor lessons to learning styles is unlikely to be beneficial. 7. Pupils with special educational needs or disabilities are likely to require additional or adapted support; working closely with colleagues, families and pupils to understand barriers and identify effective strategies is essential.	**Meet individual needs without creating unnecessary workload, by:** • *Discussing and analysing with expert colleagues how they decide whether intervening within lessons with individuals and small groups would be more efficient and effective than planning different lessons for different groups of pupils.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Making use of well-designed resources (e.g. textbooks).* • *Planning to connect new content with pupils' existing knowledge or providing additional pre-teaching if pupils lack critical knowledge* • *Building in additional practice or removing unnecessary expositions.* • *Reframing questions to provide greater scaffolding or greater stretch.* **Group pupils effectively, by:** • *Discussing and analysing with expert colleagues how the placement school changes groups regularly, avoiding the perception that groups are fixed.* • *Discussing and analysing with expert colleagues how the placement school ensures that any groups based on attainment are subject specific.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Applying high expectations to all groups, and ensuring all pupils have access to a rich curriculum.*
Notes *Learn that…* statements are informed by the best available educational research; references and further reading are provided below.	

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

Assessment (Standard 6 – 'Make accurate and productive use of assessment')

Learn that…	Learn how to…
1. Effective assessment is critical to teaching because it provides teachers with information about pupils' understanding and needs. 2. Good assessment helps teachers avoid being over-influenced by potentially misleading factors, such as how busy pupils appear. 3. Before using any assessment, teachers should be clear about the decision it will be used to support and be able to justify its use. 4. To be of value, teachers use information from assessments to inform the decisions they make; in turn, pupils must be able to act on feedback for it to have an effect. 5. High-quality feedback can be written or verbal; it is likely to be accurate and clear, encourage further effort, and provide specific guidance on how to improve. 6. Over time, feedback should support pupils to monitor and regulate their own learning. 7. Working with colleagues to identify efficient approaches to assessment is important;	**Avoid common assessment pitfalls, by:** • *Discussing and analysing with expert colleagues how to plan formative assessment tasks linked to lesson objectives and think ahead about what would indicate understanding (e.g. by using hinge questions to pinpoint knowledge gaps).* • *Discussing and analysing with expert colleagues how to choose, where possible, externally validated materials, used in controlled conditions when required to make summative assessments.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Drawing conclusions about what pupils have learned by looking at patterns of performance over a number of assessments with support and scaffolding from expert colleagues (e.g. appreciating that assessments draw inferences about learning from performance).* **Check prior knowledge and understanding during lessons, by:** • *Receiving clear, consistent and effective mentoring in how to structure tasks and questions to enable the identification of knowledge gaps and misconceptions (e.g. by using common misconceptions within multiple-choice questions).* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Using assessments to check for prior knowledge and pre-existing misconceptions.*

assessment can become onerous and have a disproportionate impact on workload.	• *Prompting pupils to elaborate when responding to questioning to check that a correct answer stems from secure understanding.* • *Monitoring pupil work during lessons, including checking for misconceptions.* **Provide high-quality feedback, by:** • *Discussing and analysing with expert colleagues how pupils' responses to feedback can vary depending on a range of social factors (e.g. the message the feedback contains or the age of the child).* • *Receiving clear, consistent and effective mentoring in how to scaffold self-assessment by sharing model work with pupils, highlighting key details.* • *Discussing and analysing with expert colleagues how to ensure feedback is specific and helpful when using peer- or self-assessment.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Focusing on specific actions for pupils and providing time for pupils to respond to feedback.* **Make marking manageable and effective, by:** • *Receiving clear, consistent and effective mentoring in how to record data only when it is useful for improving pupil outcomes.* • *Discussing and analysing with expert colleagues to develop an understanding that written marking is only one form of feedback.* • *Discussing and analysing with expert colleagues how to identify efficient approaches to marking and alternative approaches to providing feedback (e.g. using whole class feedback or well*

	supported peer- and self-assessment) and deconstructing this approach. **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Using verbal feedback during lessons in place of written feedback after lessons where possible.* • *Reducing the opportunity cost of marking (e.g. by using abbreviations and codes in written feedback).* • *Prioritising the highlighting of errors related to misunderstandings, rather than careless mistakes when marking.*

Notes

Learn that… statements are informed by the best available educational research; references and further reading are provided below.

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

Managing Behaviour (Standard 7 – 'Manage behaviour effectively')

Learn that…	Learn how to…
1. Establishing and reinforcing routines, including through positive reinforcement, can help create an effective learning environment. 2. A predictable and secure environment benefits all pupils, but is particularly valuable for pupils with special educational needs. 3. The ability to self-regulate one's emotions affects pupils' ability to learn, success in school and future lives. 4. Teachers can influence pupils' resilience and beliefs about their ability to succeed, by ensuring all pupils have the opportunity to experience meaningful success. 5. Building effective relationships is easier when pupils believe that their feelings will be considered and understood. 6. Pupils are motivated by intrinsic factors (related to their identity and values) and extrinsic factors (related to reward).	**Develop a positive, predictable and safe environment for pupils, by:** • *Receiving clear, consistent and effective mentoring in how to respond quickly to any behaviour or bullying that threatens emotional safety.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Establishing a supportive and inclusive environment with a predictable system of reward and sanction in the classroom.* • *Working alongside colleagues as part of a wider system of behaviour management (e.g. recognising responsibilities and understanding the right to assistance and training from senior colleagues).* • *Giving manageable, specific and sequential instructions.* • *Checking pupils' understanding of instructions before a task begins.* • *Using consistent language and non-verbal signals for common classroom directions.* • *Using early and least-intrusive interventions as an initial response to low level disruption.* **Establish effective routines and expectations, by:** • *Discussing and analysing with expert colleagues how routines are established at the beginning of the school year, both in classrooms and around the school.*

7. Pupils' investment in learning is also driven by their prior experiences and perceptions of success and failure.	**And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Creating and explicitly teaching routines in line with the school ethos that maximise time for learning (e.g. setting and reinforcing expectations about key transition points).* • *Reinforcing established school and classroom routines* **Build trusting relationships, by:** • *Discussing and analysing with expert colleagues effective strategies for liaising with parents, carers and colleagues to better understand pupils' individual circumstances and how they can be supported to meet high academic and behavioural expectations.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Responding consistently to pupil behaviour.* • *Engaging parents, carers and colleagues with support (e.g. discussing a script) from expert colleagues and mentors both in formal and informal settings.* **Motivate pupils, by:** • *Observing how expert colleagues support pupils to master challenging content, which builds towards long-term goals and deconstructing this approach.* • *Discussing and analysing with expert colleagues how experienced colleagues provide opportunities for pupils to articulate their long-term goals and helping them to see how these are related to their success in school.*

	• *Discussing and analysing with expert colleagues how to support pupils to journey from needing extrinsic motivation to being motivated to work intrinsically.*

Notes

Learn that… statements are informed by the best available educational research; references and further reading are provided below.

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

Professional Behaviours (Standard 8 – 'Fulfil wider professional responsibilities')

Learn that…	Learn how to…
1. Effective professional development is likely to be sustained over time, involve expert support or coaching and opportunities for collaboration. 2. Reflective practice, supported by feedback from and observation of experienced colleagues, professional debate, and learning from educational research, is also likely to support improvement. 3. Teachers can make valuable contributions to the wider life of the school in a broad range of ways, including by supporting and developing effective professional relationships with colleagues. 4. Building effective relationships with parents, carers and families can improve pupils' motivation, behaviour and academic success. 5. Teaching assistants (TAs) can support pupils more effectively when they are prepared for lessons by teachers, and when TAs supplement rather than replace support from teachers.	**Develop as a professional, by:** • *Receiving clear, consistent and effective mentoring in how to engage in professional development with clear intentions for impact on pupil outcomes, sustained over time with built-in opportunities for practice.* • *Receiving clear, consistent and effective mentoring on the duties relating to Part 2 of the Teachers' Standards.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Strengthening pedagogical and subject knowledge by participating in wider networks.* • *Learning to extend subject and pedagogic knowledge as part of the lesson preparation process.* • *Seeking challenge, feedback and critique from mentors and other colleagues in an open and trusting working environment.* • *Reflecting on progress made, recognising strengths and weaknesses and identifying next steps for further improvement.* • *Engaging critically with research and using evidence to critique practice.* **Build effective working relationships, by:** • *Discussing and analysing with expert colleagues how experienced colleagues seek ways to support individual colleagues and working as part of a team.*

6. SENCOs, pastoral leaders, careers advisors and other specialist colleagues also have valuable expertise and can ensure that appropriate support is in place for pupils. 7. Engaging in high-quality professional development can help teachers improve.	• *Observing how expert colleagues communicate with parents and carers proactively and make effective use of parents' evenings to engage parents and carers in their children's schooling and deconstructing this approach.* • *Receiving clear, consistent and effective mentoring in how to work closely with the SENCO and other professionals supporting pupils with additional needs, including how to make explicit links between interventions delivered outside of lessons with classroom teaching.* • *Discussing with mentor and expert colleagues how to share the intended lesson outcomes with teaching assistants ahead of lessons.* • *Receiving clear, consistent and effective mentoring in how to ensure that support provided by teaching assistants in lessons is additional to, rather than a replacement for, support from the teacher.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Contributing positively to the wider school culture and developing a feeling of shared responsibility for improving the lives of all pupils within the school (e.g. by supporting expert colleagues with their pastoral responsibilities, such as careers advice).* • *Knowing who to contact with any safeguarding concerns and having a clear understanding of what sorts of behaviour, disclosures and incidents to report.* • *Preparing teaching assistants for lessons under supervision of expert colleagues.* **Manage workload and wellbeing, by:** • *Observing how expert colleagues use and personalise systems and routines to support efficient time and task management and deconstructing this approach.*

	• *Discussing and analysing with expert colleagues the importance of the right to support (e.g. to deal with misbehaviour).* • *Protecting time for rest and recovery and being aware of the sources of support available to support good mental wellbeing.* **And - following expert input - by taking opportunities to practise, receive feedback and improve at:** • *Collaborating with colleagues to share the load of planning and preparation and making use of shared resources (e.g. textbooks).*

Notes

Learn that… statements are informed by the best available educational research; references and further reading are provided below.

Learn how to… statements are drawn from the wider evidence base including both academic research and additional guidance from expert practitioners.

Other key definitions can be found in the introduction.

References

High Expectations (Standard 1 – 'Set high expectations')

[Further reading recommendations are indicated with an asterisk.]

Aronson, J. (Ed.) (2002) *Improving academic achievement: Impact of psychological factors on education*. New York: Academic Press.

Bandura, A. (1986) *Social foundations of thought and action: a social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Campbell Collaboration (2018) School-based interventions for reducing disciplinary school exclusion: A Systematic Review. Accessible from: https://campbellcollaboration.org/library/reducing-school-exclusion-school-based-interventions.html.

Chapman, R. L., Buckley, L., & Sheehan, M. (2013) School-Based Programs for Increasing Connectedness and Reducing Risk Behavior: A Systematic Review, *25*(1), 95–114.

Chetty, R., Friedman, J. N., Rockoff, J. E. (2014) Measuring the Impacts of Teachers II: Teacher Value-Added and Student Outcomes in Adulthood. American Economic Review, 104(9), 2633–2679. https://doi.org/10.1257/aer.104.9.2633.

*Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit [retrieved 10 October 2018].

Hanushek, E. (1992) The Trade-off between Child Quantity and Quality. Journal of Political Economy, 100(4), 859–887.

*Institute of Education Sciences (2008) Reducing Behavior Problems in the Elementary School Classroom. Accessible from https://ies.ed.gov/ncee/wwc/PracticeGuide/4.

Johnson, S., Buckingham, M., Morris, S., Suzuki, S., Weiner, M., Hershberg, R., B. Weiner, Hershberg, R., Fremont, E., Batanova, M., Aymong, C., Hunter, C., Bowers, E., Lerner, J., & Lerner, R. (2016) Adolescents' Character Role Models: Exploring Who Young People Look Up to as Examples of How to Be a Good Person. *Research in Human Development*, *13*(2), 126–141. https://doi.org/10.1080/15427609.2016.1164552.

Jussim, L. & Harber, K., (2005) *Teacher Expectations and Self-Fulfilling Prophecies: Knowns and Unknowns, Resolved and Unresolved Controversies*, Personality and Social Psychology Review 2005, Vol. 9, No. 2, 131–1557.

Lazowski, R. A., & Hulleman, C. S. (2016) Motivation Interventions in Education: A Meta-Analytic Review. *Review of Educational Research*, *86*(2), 602–640. https://doi.org/10.3102/0034654315617832.

Murdock-Perriera, L. A., & Sedlacek, Q. C. (2018) Questioning Pygmalion in the twenty-first century: the formation, transmission, and attributional influence of teacher expectancies. Social Psychology of Education, 21(3), 691–707. https://doi.org/10.1007/s11218-018-9439-9.

*PISA (2015) PISA in Focus: Do teacher-student relations affect students' well-being at school? Accessible from: https://doi.org/10.1787/22260919.

Rathmann K., Herke M., Hurrelmann K., Richter M. (2018) Perceived class climate and school-aged children's life satisfaction: The role of the learning environment in classrooms. PLoS ONE 13(2): e0189335. https://doi.org/10.1371/journal.pone.0189335.

Rubie-Davies, C. M., Weinstein, R. S., Huang, F. L., Gregory, A., Cowan, P. A., & Cowan, C. P. (2014) Successive teacher expectation effects across the early school years. Journal of Applied Developmental Psychology, 35(3), 181–191. https://doi.org/10.1016/j.appdev.2014.03.006.

Slater, H., Davies, N. M., & Burgess, S. (2011) Do Teachers Matter? Measuring the Variation in Teacher Effectiveness in England. *Oxford Bulletin of Economics and Statistics*, https://doi.org/10.1111/j.1468-0084.2011.00666.x.

Tsiplakides, I. & Keramida, A. (2010) The relationship between teacher expectations and student achievement in the teaching of English as a foreign language. *English Language Teaching*, *3*(2), P22. Retrieved from http://files.eric.ed.gov/fulltext/EJ1081569.pdf.

Wubbels, T., Brekelmans, M., den Brok, P., Wijsman, L., Mainhard, T., & van Tartwijk, J. (2014) Teacher-student relationships and classroom management. In E. T. Emmer, E. Sabornie, C. Evertson, & C. Weinstein (Eds.). Handbook of classroom management: Research, practice, and contemporary issues (2nd ed., pp. 363–386). New York, NY: Routledge.

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2007) The Scientific Base Linking Social and Emotional Learning to School Success. Journal of Educational and Psychological Consultation, 17(2–3), 191–210. https://doi.org/10.1080/10474410701413145

How Pupils Learn (Standard 2 – 'Promote good progress')

[Further reading recommendations are indicated with an asterisk.]

Adesope, O. O., Trevisan, D. A., & Sundararajan, N. (2017) Rethinking the Use of Tests: A Meta-Analysis of Practice Testing. *Review of Educational Research*, *87*(3), 659–701. https://doi.org/10.3102/0034654316689306.

Agarwal, P. K., Finley, J. R., Rose, N. S., & Roediger, H. L. (2017) Benefits from retrieval practice are greater for students with lower working memory capacity. *Memory*, *25*(6), 764–771. https://doi.org/10.1080/09658211.2016.1220579.

Allen, B. and Sims, S. (2018) The Teacher Gap. Abingdon: Routledge.

Baddeley, A. (2003) Working memory: looking back and looking forward. *Nature reviews neuroscience, 4*(10), 829-839.

Black, P., & Wiliam, D. (2009) Developing the theory of formative assessment. Educational Assessment, Evaluation and Accountability, 21(1), pp.5-31.

Chi, M. T. (2009) Three types of conceptual change: Belief revision, mental model transformation, and categorical shift. In *International handbook of research on conceptual change* (pp. 89-110). Routledge.

Clark, R., Nguyen, F. & Sweller, J. (2006) *Efficiency in Learning: Evidence-Based Guidelines to Manage Cognitive Load.* John Wiley & Sons.

Cowan, N. (2008) What are the differences between long-term, short-term, and working memory? *Progress in brain research*, *169*, 323-338.

*Deans for Impact (2015) The Science of Learning [Online] Accessible from: https://deansforimpact.org/resources/the-science-of-learning/. [retrieved 10 October 2018].

Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013) Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest, Supplement*, *14*(1), 4–58. https://doi.org/10.1177/1529100612453266.

*Education Endowment Foundation (2018) Improving Secondary Science Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

Gathercole, S., Lamont, E., & Alloway, T. (2006) Working memory in the classroom. *Working memory and education*, 219-240.

Hattie, J. (2012) Visible Learning for Teachers. Oxford: Routledge.

Kirschner, P., Sweller, J., Kirschner, F. & Zambrano, J. (2018) From cognitive load theory to collaborative cognitive load theory. In International Journal of Computer-Supported Collaborative Learning, 13(2), 213-233.

Pachler, H., Bain, P. M., Bottge, B. A., Graesser, A., Koedinger, K., McDaniel, M., & Metcalfe, J. (2007) Organizing Instruction and Study to Improve Student Learning. US Department of Education.

Pan, S. C., & Rickard, T. C. (2018) Transfer of test-enhanced learning: Meta-analytic review and synthesis. *Psychological Bulletin*, *144*(7), 710–756. https://doi.org/10.1037/bul0000151.

Roediger, H. L., & Butler, A. C. (2011) The critical role of retrieval practice in long-term retention. *Trends in Cognitive Sciences*, *15*(1), 20–27. https://doi.org/10.1016/j.tics.2010.09.003.

*Rosenshine, B. (2012) Principles of Instruction: Research-based strategies that all teachers should know. *American Educator*, 12–20. https://doi.org/10.1111/j.1467-8535.2005.00507.x.

Simonsmeier, B. A., Flaig, M., Deiglmayr, A., Schalk, L., & Well-being, S. (2018) Domain-Specific Prior Knowledge and Learning: A Meta-Analysis Prior Knowledge and Learning. Accessible from: https://www.psycharchives.org/handle/20.500.12034/642

Sweller, J. (2016). Working Memory, Long-term Memory, and Instructional Design. *Journal of Applied Research in Memory and Cognition*, *5*(4), 360–367. http://doi.org/10.1016/j.jarmac.2015.12.002.

Willingham, D. T. (2009) *Why don't students like school?* San Francisco, CA: JosseyBass.

Wittwer, J., & Renkl, A. (2010) How Effective are Instructional Explanations in Example-Based Learning? A Meta-Analytic Review. *Educational Psychology Review*, *22*(4), 393–409. https://doi.org/10.1007/s10648-010-9136-5.

Subject and Curriculum (Standard 3 – 'Demonstrate good subject and curriculum knowledge')

[Further reading recommendations are indicated with an asterisk.]

Bailin, S., Case, R., Coombs, J. R., & Daniels, L. B. (1999) Common misconceptions of critical thinking. *Journal of Curriculum Studies*, *31*(3), 269-283.

Ball, D. L., Thames, M. H., & Phelps, G. (2008) Content knowledge for teachers: What makes it special? *Journal of Teacher Education,* 2008 59: 389 DOI: 10.1177/0022487108324554 [Online] Accessible from: https://www.math.ksu.edu/~bennett/onlinehw/qcenter/ballmkt.pdf.

Biesta, G. (2009) Good education in an age of measurement: on the need to reconnect with the question of purpose in education. Educational Assessment, Evaluation and Accountability, 21(1).

*Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014) *What makes great teaching. Review of the underpinning research*. Durham University: UK. Available at: http://bit.ly/2OvmvKO

Cowan, N. (2008) What are the differences between long-term, short-term, and working memory? *Progress in brain research*, *169*, 323-338.

Deans for Impact (2015) The Science of Learning [Online] Accessible from: https://deansforimpact.org/resources/the-science-of-learning/ [retrieved 10 October 2018].

Education Endowment Foundation (2018) Improving Secondary Science Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

Education Endowment Foundation (2018) Preparing for Literacy Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/Preparing_Literacy_Guidance_2018.pdf

Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/ [retrieved 10 October 2018].

Guzzetti, B. J. (2000) Learning counter-intuitive science concepts: What have we learned from over a decade of research? *Reading & Writing Quarterly: Overcoming Learning Difficulties, 16,* 89 –98. http://dx.doi.org/10.1080/105735600277971.

Jerrim, J., & Vignoles, A. (2016) The link between East Asian "mastery" teaching methods and English children's mathematics skills. Economics of Education Review, 50, 29-44. https://doi.org/10.1016/j.econedurev.2015.11.003.

Machin, S., McNally, S., & Viarengo, M. (2018) Changing how literacy is taught: Evidence on synthetic phonics. American Economic Journal: Economic Policy, 10(2), 217–241. https://doi.org/10.1257/pol.20160514.

Rich, P. R., Van Loon, M. H., Dunlosky, J., & Zaragoza, M. S. (2017) Belief in corrective feedback for common misconceptions: Implications for knowledge revision. *Journal of Experimental Psychology: Learning, Memory, and Cognition, 43*(3), 492-501. http://dx.doi.org/10.1037/xlm0000322.

*Rosenshine, B. (2012) Principles of Instruction: Research-based strategies that all teachers should know. *American Educator*, 12–20. https://www.aft.org//sites/default/files/periodicals/Rosenshine.pdf .

Scott, C. E., McTigue, E. M., Miller, D. M., & Washburn, E. K. (2018) The what, when, and how of preservice teachers and literacy across the disciplines : A systematic literature review of nearly 50 years of research. *Teaching and Teacher Education*, *73*, 1–13. https://doi.org/10.1016/j.tate.2018.03.010.

*Shanahan, T. (2005) The National Reading Panel Report: Practical Advice for Teachers. Accessible from: https://files.eric.ed.gov/fulltext/ED489535.pdf.

Sweller, J., van Merrienboer, J. J. G., & Paas, F. G. W. C. (1998) Cognitive Architecture and Instructional Design. Educational Psychology Review, 10(3), 251–296.https://doi.org/10.1023/A:1022193728205.

Willingham, D. T. (2002) Ask the Cognitive Scientist. Inflexible Knowledge: The First Step to Expertise. *American Educator*, *26*(4), 31-33. Accessible from: https://www.aft.org/periodical/american-educator/winter-2002/ask-cognitive-scientist.

Classroom Practice (Standard 4 – 'Plan and teach well structured lessons')

[Further reading recommendations are indicated with an asterisk.]

Alexander R.J. (2020) *A Dialogic Teaching Companion*, London: Routledge.

*Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014) *What makes great teaching. Review of the underpinning research*. Durham University: UK. Available at: http://bit.ly/2OvmvKO

Donker, A. S., de Boer, H., Kostons, D., Dignath van Ewijk, C. C., & van der Werf, M. P. C. (2014) Effectiveness of learning strategy instruction on academic performance: A meta-analysis. *Educational Research Review*, *11*, 1–26. https://doi.org/10.1016/j.edurev.2013.11.002.

Donovan, M. S., & Bransford, J. D. (2005) How students learn: Mathematics in the classroom. Washington, DC: The National Academies Press.

Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013) Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest, Supplement*, *14*(1), 4–58. https://doi.org/10.1177/1529100612453266.

Education Endowment Foundation (2016) Improving Literacy in Key Stage One Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

Education Endowment Foundation (2017) Improving Mathematics in Key Stages Two and Three Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

Education Endowment Foundation (2017) Metacognition and Self-regulated learning Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

Education Endowment Foundation (2018) Improving Secondary Science Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

*Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/ [retrieved 10 October 2018].

Elleman, A. M., Lindo, E. J., Morphy, P., & Compton, D. L. (2009) The Impact of Vocabulary Instruction on Passage-Level Comprehension of School-Age Children: A Meta-Analysis. *Journal of Research on Educational Effectiveness*, *2*(1), 1–44. https://doi.org/10.1080/19345740802539200.

Hodgen, J., Foster, C., Marks, R. & Brown, M. (2018) Improving Mathematics in Key Stages Two and Three: Evidence Review. [Online] Accessible from https://educationendowmentfoundation.org.uk/evidence-summaries/evidence-reviews/improving-mathematics-in-key-stages-two-and-three/ [retrieved 22 October 2018], 149-157.

Institute of Education Sciences. (2009) Assisting Students Struggling with Mathematics: Response to Intervention for Elementary and Middle Schools. Accessible from: https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/rti_math_pg_042109.pdf.

Jay, T., Willis, B., Thomas, P., Taylor, R., Moore, N., Burnett, C., Merchant, G., Stevens, A. (2017) Dialogic Teaching: Evaluation Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/dialogic-teaching [retrieved 10 October 2018].

Kalyuga, S. (2007) Expertise reversal effect and its implications for learner-tailored instruction. *Educational Psychology Review*, *19*(4), 509-539.

Kirschner, P., Sweller, J., Kirschner, F. & Zambrano, J. (2018) From cognitive load theory to collaborative cognitive load theory. In International Journal of Computer-Supported Collaborative Learning, 13(2), 213-233.

Leung, K. C. (2015) Preliminary Empirical Model of Crucial Determinants of Best Practice for Peer Tutoring on Academic Achievement Preliminary Empirical Model of Crucial Determinants of Best Practice for Peer Tutoring on Academic Achievement. Journal of Educational Psychology, 107(2), 558–579. https://doi.org/10.1037/a0037698.

Muijs, D., & Reynolds, D. (2017) *Effective teaching: Evidence and practice*. Thousand Oaks, CA: Sage.

Pan, S. C., & Rickard, T. C. (2018) Transfer of test-enhanced learning: Meta-analytic review and synthesis. *Psychological Bulletin*, *144*(7), 710–756. http://psycnet.apa.org/doiLanding?doi=10.1037%2Fbul0000151.

*Rosenshine, B. (2012) Principles of Instruction: Research-based strategies that all teachers should know. *American Educator*, 12–20. https://doi.org/10.1111/j.1467-8535.2005.00507.x

Sweller, J. (2016). Working Memory, Long-term Memory, and Instructional Design. *Journal of Applied Research in Memory and Cognition*, *5*(4), 360–367. http://doi.org/10.1016/j.jarmac.2015.12.002.

Tereshchenko, A., Francis, B., Archer, L., Hodgen, J., Mazenod, A., Taylor, B., Travers, M. C. (2018) Learners' attitudes to mixed-attainment grouping: examining the views of students of high, middle and low attainment. Research Papers in Education, 1522, 1–20. https://doi.org/10.1080/02671522.2018.1452962.

Van de Pol, J., Volman, M., Oort, F., & Beishuizen, J. (2015) The effects of scaffolding in the classroom: support contingency and student independent working time in relation to student achievement, task effort and appreciation of support. *Instructional Science*, *43*(5), 615-641.

Wittwer, J., & Renkl, A. (2010) How Effective are Instructional Explanations in Example-Based Learning? A Meta-Analytic Review. *Educational Psychology Review*, *22*(4), 393–409. https://doi.org/10.1007/s10648-010-9136-5.

Zimmerman, B. J. (2002) Becoming a Self-Regulated Learner: An Overview, Theory Into Practice. *Theory Into Practice*, *41*(2), 64–70. https://www.jstor.org/stable/1477457?seq=1#page_scan_tab_contents.

Adaptive Teaching (Standard 5 – 'Adapt teaching')

[Further reading recommendations are indicated with an asterisk.]

*Davis, P., Florian, L., Ainscow, M., Dyson, A., Farrell, P., Hick, P., Rouse, M. (2004) Teaching Strategies and Approaches for Pupils with Special Educational Needs: A Scoping Study. Accessible from: http://dera.ioe.ac.uk/6059/1/RR516.pdf.

Deunk, M. I., Smale-Jacobse, A. E., de Boer, H., Doolaard, S., & Bosker, R. J. (2018) Effective differentiation Practices: A systematic review and meta-analysis of studies on the cognitive effects of differentiation practices in primary education. *Educational Research Review*, *24*(February), 31–54. https://doi.org/10.1016/j.edurev.2018.02.002.

*Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit [retrieved 10 October 2018].

Hattie, J. (2009) Visible learning: a synthesis of over 800 meta-analyses relating to achievement. London: Routledge.

Kriegbaum, K., Becker, N., & Spinath, B. (2018) The Relative Importance of Intelligence and Motivation as Predictors of School Achievement: A meta-analysis. *Educational Research Review*. https://doi.org/10.1016/j.edurev.2018.10.001.

*OECD (2015) Pisa 2015 Result: Policies and Practices for Successful Schools. Accessible from: https://doi.org/10.1787/9789264267510-en.

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008) Learning Styles: Concepts and Evidence. *Psychological Science in the Public Interest*, *9* (3).

Sisk, V. F., Burgoyne, A. P., Sun, J., Butler, J. L., & Macnamara, B. N. (2018) To What Extent and Under Which Circumstances Are Growth Mind-Sets Important to Academic Achievement? Two Meta-Analyses. Psychological Science, 29(4), 549–571. https://doi.org/10.1177/0956797617739704.

Speckesser, S., Runge, J., Foliano, F., Bursnall, M., Hudson-Sharp, N., Rolfe, H. & Anders, J. (2018) Embedding Formative Assessment: Evaluation Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/EFA_evaluation_report.pdf [retrieved 10 October 2018].

Steenbergen-Hu, S., Makel, M. C., & Olszewski-Kubilius, P. (2016) *What One Hundred Years of Research Says About the Effects of Ability Grouping and Acceleration on K-12 Students Academic Achievement: Findings of Two Second-Order Meta-Analyses*. *Review of Educational Research* (Vol. 86). https://doi.org/10.3102/0034654316675417.

Tereshchenko, A., Francis, B., Archer, L., Hodgen, J., Mazenod, A., Taylor, B., Travers, M. C. (2018) Learners' attitudes to mixed-attainment grouping: examining the views of students of high, middle and low attainment. Research Papers in Education, 1522, 1–20. https://doi.org/10.1080/02671522.2018.1452962.

Willingham, D. T. (2010) The Myth of Learning Styles, *Change*, 42(5), 32–35.

Assessment (Standard 6 – 'Make accurate and productive use of assessment')

[Further reading recommendations are indicated with an asterisk.]

Black, P., & Wiliam, D. (2009) Developing the theory of formative assessment. Educational Assessment, Evaluation and Accountability, 21(1), pp.5-31.

*Black, P., Harrison, C., Lee, C., Marshall, B., & Wiliam, D. (2004). Working inside the Black Box: Assessment for Learning in the Classroom. Phi Delta Kappan, 86(1), 8–21. Accessible from: https://eric.ed.gov/?id=EJ705962

Christodoulou, D. (2017) Making Good Progress: The Future of Assessment for Learning. Oxford: OUP.

*Coe, R. (2013) *Improving Education: A triumph of hope over experience*. Centre for Evaluation and Monitoring. Accessible from: http://www.cem.org/attachments/publications/ImprovingEducation2013.pdf.

*Education Endowment Foundation (2016) A marked improvement? A review of the evidence on written marking. Accessible from: https://educationendowmentfoundation.org.uk/public/files/Publications/EEF_Marking_Review_April_2016.pdf.

Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/ [retrieved 10 October 2018].

Gibson, S., Oliver, L. and Dennison, M. (2015) *Workload Challenge: Analysis of teacher consultation responses*. Department for Education. Accessible from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/485075/DFE-RR456A_-_Workload_Challenge_Analysis_of_teacher_consultation_responses_sixth_form_colleges.pdf.

Hattie, J., & Timperley, H. (2007) The Power of Feedback. *Review of Educational Research*, *77*(1), 81–112. https://doi.org/10.3102/003465430298487

Harlen, W. & James, M. (1997) Assessment and Learning: differences and relationships between formative and summative assessment, Assessment in Education: Principles, *Policy & Practice* 4:3, 365-379.Kluger, A. N., & DeNisi, A. (1996) The effects of feedback interventions on performance: A historical review, a meta-analysis, and a preliminary feedback intervention theory. *Psychological Bulletin*, *119*(2), 254–284. https://doi.org/10.1037/0033-2909.119.2.254.

Sadler, D. (1989) Formative assessment and the design of instructional systems. *Instructional Science*, 18(2), pp.119-144.

Speckesser, S., Runge, J., Foliano, F., Bursnall, M., Hudson-Sharp, N., Rolfe, H. & Anders, J. (2018) Embedding Formative Assessment: Evaluation Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/EFA_evaluation_report.pdf [retrieved 10 October 2018].

Wiliam, D. (2010) What Counts as Evidence of Educational Achievement? The Role of Constructs in the Pursuit of Equity in *Assessment. Review of Research in Education*, 34, pp. 254-284.

Wiliam, D. (2017) Assessment, marking and feedback. In Hendrick, C. and McPherson, R. (Eds.) *What Does This Look Like in the Classroom? Bridging the gap between research and practice*. Woodbridge: John Catt.

Managing Behaviour (Standard 7 – 'Manage behaviour effectively')

[Further reading recommendations are indicated with an asterisk.]

Bennett, J., Lubben, F., & Hogarth, S. (2006) Bringing Science to Life: A Synthesis of the Research Evidence on the Effects of Context-Based and STS Approaches to Science Teaching. *Science Education*, *91*(1), 36–74. https://www.york.ac.uk/media/educationalstudies/documents/staff-docs/Bennett%20Lubben%20Hogarth%202007.pdf.

*Carroll, J., Bradley, L., Crawford, H., Hannant, P., Johnson, H., & Thompson, A. (2017). SEN support: A rapid evidence assessment. Accessible from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/628630/DfE_SEN_Support_REA_Report.pdf

Chapman, R. L., Buckley, L., & Sheehan, M. (2013) School-Based Programs for Increasing Connectedness and Reducing Risk Behavior: A Systematic Review, *25*(1), 95–114.

*Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014) *What makes great teaching. Review of the underpinning research*. Durham University: UK. Available at: http://bit.ly/2OvmvKO.

DuPaul, G. J., Belk, G. D., & Puzino, K. (2016) Evidence-Based Interventions for Attention Deficit Hyperactivity Disorder in Children and Adolescents. Handbook of Evidence-Based Interventions for Children and Adolescents, 167.

Education Endowment Foundation (2018) Improving Secondary Science Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/ [retrieved 10 October 2018].

Gutman, L. & Schoon, L. (2013) The impact of non-cognitive skills on the outcomes of young people. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/Publications/EEF_Lit_Review_Non-CognitiveSkills.pdf [retrieved 10 October 2018].

*Institute of Education Sciences (2008) Reducing Behavior Problems in the Elementary School Classroom. Accessible from https://ies.ed.gov/ncee/wwc/PracticeGuide/4.

Kern, L., & Clemens, N. H. (2007) Antecedent strategies to promote appropriate classroom behavior. Psychology in the Schools, 44(1), 65–75. https://doi.org/10.1002/pits.20206.

Lazowski, R. A., & Hulleman, C. S. (2016) Motivation Interventions in Education: A Meta-Analytic Review. *Review of Educational Research*, *86*(2), 602–640. https://doi.org/10.3102/0034654315617832.

Mitchell, D. (2014). What really works in special and inclusive education. Oxford: Routledge.

Sibieta, L., Greaves, E. & Sianesi, B. (2014) Increasing Pupil Motivation: Evaluation Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/increasing-pupil-motivation/ [retrieved 10 October 2018].

Ursache, A., Blair, C., & Raver, C. C. (2012) The promotion of self-regulation as a means of enhancing school readiness and early achievement in children at risk for school failure. *Child Development Perspectives, 6*(2), 122-128.

Willingham, D. T. (2009) *Why don't students like school?* San Francisco, CA: JosseyBass.

Wubbels, T., Brekelmans, M., den Brok, P., Wijsman, L., Mainhard, T., & van Tartwijk, J. (2014) Teacher-student relationships and classroom management. In E. T. Emmer, E. Sabornie, C. Evertson, & C. Weinstein (Eds.). Handbook of classroom management: Research, practice, and contemporary issues (2nd ed., pp. 363–386). New York, NY: Routledge.

Yeager, D. S., & Walton, G. M. (2011) Social-Psychological Interventions in Education: They're Not Magic. *Review of Educational Research*, *81*(2), 267–301. https://doi.org/10.3102/0034654311405999.

Professional Behaviours (Standard 8 – 'Fulfil wider professional responsibilities')

[Further reading recommendations are indicated with an asterisk.]

Allen JP, Pianta RC, Gregory A, Mikami AY, Lun J (2011) An interaction-based approach to enhancing secondary school instructio and student achievement. Science 333(6045):1034-1037 https://doi.org/10.1126/science.1207998.

Basma, B. & Savage, R. (2018) Teacher Professional Development and Student Literacy Growth: a Systematic Review and Meta-analysis. Education Psychology Review. 30: 457 https://doi.org/10.1007/s10648-017-9416-4.

Blatchford, P., Bassett, P., Brown, P., Martin, C., Russell, A., & Webster, R. (2009) Deployment and impact of support staff in schools: Characteristics, Working Conditions and Job Satisfaction of Support Staff in Schools. Retrieved from http://eprints.uwe.ac.uk/12342/.

*Carroll, J., Bradley, L., Crawford, H., Hannant, P., Johnson, H., & Thompson, A. (2017) SEN support: A rapid evidence assessment. Accessible from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/628630/DfE_SEN_Support_REA_Report.pdf

*Cordingley, P., Higgins, S., Greany, T., Buckler, N., Coles-Jordan, D., Crisp, B., Saunders, L. & Coe, R. (2015) Developing Great Teaching. Accessible from: https://tdtrust.org/about/dgt. [accessed 18 October 2018].

Darling-Hammond, L. (2009) Professional Learning in the Learning Profession.

Department for Education (2018) Schools: guide to the 0 to 25 SEND code of practice, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/349053/Schools_Guide_to_the_0_to_25_SEND_Code_of_Practice.pdf. [accessed 18 October 2018].

*Education Endowment Foundation (2015) Making Best Use of Teaching Assistants Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/ [retrieved 10 October 2018].

Education Endowment Foundation (2018) Sutton Trust-Education Endowment Foundation Teaching and Learning Toolkit: Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/ [retrieved 10 October 2018].

Hughes, D., Mann, A., Barnes, S., Baladuf, B. and McKeown, R. (2016). Careers education: International literature review. https://educationendowmentfoundation.org.uk/evidence-summaries/evidence-reviews/careers-education/ [Accessed 18 October 2018].

Kraft, M., Blazar, D., & Hogan, D. (2018) The Effect of Teacher Coaching on Instruction and Achievement: A Meta-Analysis of the Causal Evidence. Review of Educational Research, 003465431875926. https://doi.org/10.3102/0034654318759268.

Skaalvik, E. M., & Skaalvik, S. (2017) Still motivated to teach? A study of school context variables, stress and job satisfaction among teachers in senior high school. *Social Psychology of Education*, *20*(1), 15–37. https://doi.org/10.1007/s11218-016-9363-9.

Department for Education

© Crown copyright 2019

This publication (not including logos) is licensed under the terms of the Open Government Licence v3.0 except where otherwise stated. Where we have identified any third party copyright information you will need to obtain permission from the copyright holders concerned.

To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/version/3

email psi@nationalarchives.gov.uk

write to Information Policy Team, The National Archives, Kew, London, TW9 4DU

About this publication:

enquiries www.education.gov.uk/contactus

download www.gov.uk/government/publications

Reference: DFE-00015-2019

Follow us on Twitter: @educationgovuk

Like us on Facebook: facebook.com/educationgovuk