National Professional Qualification (NPQ): Leading Teaching Framework

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The content of the framework and its underpinning evidence have been independently assessed and endorsed by the Education Endowment Foundation (EEF).

Contents

Summary

About this guidance

This publication provides guidance from the Department for Education (DfE). It sets out the knowledge, skills and behaviours that will be developed by teachers when they participate in the National Professional Qualification for Leading Teaching (NPQLT).

Who is this guidance for?

This guidance is for:

- teachers applying for, or participating in, this NPQ

- school leaders who are encouraging staff to undertake this NPQ

- organisations developing and delivering NPQs.

Introduction

Transforming the support and development offer for teachers and school leaders throughout their career

Teachers are the foundation of the education system – there are no great schools without great teachers. At the heart of great teaching and great school leadership is a shared, evidence-informed understanding of what works.

Delivering on the commitments set out in the [Teacher Recruitment and Retention Strategy](#), we have transformed our training and support for teachers at all stages of their career.

We have revised our Initial Teacher Training (ITT) Core Content Framework and, through the implementation of the Early Career Framework (ECF), are now supporting teachers in the first years of their career with a structured two year induction into the profession.

Building on this, our priority is to help all our teachers and school leaders continuously develop their knowledge and skills throughout their careers so every child in every classroom in every school gets a world-class start in life.

The National Professional Qualifications (NPQs) provide training and support for teachers and school leaders at all levels, from those who want to develop expertise in high quality teaching practice, such as behaviour management, to those leading multiple schools across trusts.

The NPQ frameworks continue the robust method of design and development, building on the evidence base and expert guidance already established in the ECF and the ITT Core Content Framework. They complete the golden thread, running from initial teacher training through to school leadership, rooting teacher and school leader development in the best available evidence and collective wisdom of the profession.

The frameworks reflect the [Teachers' Standards](#) and [Headteachers' Standards](#) to ensure coherency with the requirements already used by the teaching profession.

The suite of National Professional Qualifications

NPQs are a set of prestigious professional qualifications, already widely recognised by the sector. They are voluntary and are designed to support the professional development of teachers and school leaders at all levels, across primary and secondary schools.

Three existing NPQs in Senior Leadership, Headship and Executive Leadership have been reformed to ensure they are underpinned by the latest and best evidence. Our NPQ

in Middle Leadership has been replaced with three new NPQs for teachers and school leaders who want to broaden and deepen their expertise in specialist areas.

The NPQs comprise the:

- **National Professional Qualification for Leading Teacher Development (NPQLTD)** – for teachers who have, or are aspiring to have, responsibilities for leading the development of other teachers in their school. They may have responsibilities for the development of all teachers across a school or specifically trainees or teachers who are early in their career.

- **National Professional Qualification for Leading Behaviour and Culture (NPQLBC)** – for teachers who have, or are aspiring to have, responsibilities for leading behaviour and/or supporting pupil wellbeing in their school.

- **National Professional Qualification for Leading Teaching (NPQLT)** – for teachers who have, or are aspiring to have, responsibilities for leading teaching in a subject, year group, key stage or phase.

- **National Professional Qualification for Senior Leadership (NPQSL)** – for school leaders who are, or are aspiring to be, a senior leader with cross-school responsibilities.

- **National Professional Qualification for Headship (NPQH)** – for school leaders who are, or are aspiring to be, a headteacher or head of school with responsibility for leading a school.

- **National Professional Qualification for Executive Leadership (NPQEL)** – for school leaders who are, or are aspiring to be, an executive headteacher or have a school trust CEO role with responsibility for leading several schools.

Reforming the National Professional Qualification content frameworks

In collaboration with an Expert Advisory Group, we consulted extensively with the sector to design the reformed suite of NPQs. This has included invaluable input from teachers, school and trust leaders, academics and experts.

The frameworks set out two types of content. Within each area, key evidence statements ("Learn that…") have been drawn from current high-quality evidence from the UK and overseas. This evidence includes high-quality reviews and syntheses, including meta-analyses and rigorous individual studies. In addition, the NPQ frameworks provide practical guidance on the skills that teachers and school/trust leaders should be supported to develop. Practice statements ("Learn how to…") draw on both the best available educational research and on additional guidance from the Expert Advisory Group and other sector representatives.

The NPQs have been designed around how to support all pupils to succeed. This includes those pupils identified within the four areas of need set out in the Special Educational Needs and Disability (SEND) Code of Practice, and children in need of help and protection as identified in the Children in Need Review.

The EEF has independently reviewed the frameworks to ensure they draw on the best available evidence and that this evidence has been interpreted with fidelity. References for evidence underpinning each section are provided at the end of the framework.

The NPQ frameworks have also been reviewed by a wide range of sector bodies including unions and special educational needs and disability experts.

Professionals Leading Teaching

Leading teaching is complex. Although the role varies, many phase leaders, key stage leaders, heads of department (or similar titles) are considered to be part of the middle leadership team. They often directly manage a team of teachers and their work is focussed on supporting effective teaching across the school.

Those in this role need to have a deep understanding of their context, community and the pupils and adults they work with. They also need to have expertise across a number of specialist areas related to their role (e.g. curriculum and assessment) and in approaches that, through working with their colleagues, enable their school to keep improving (e.g. professional development and implementation). They must understand the relationship between these different domains, how they can change over time and how to contribute to a culture and conditions in which staff and pupils are able to thrive, all while maintaining the highest professional conduct as set out in the Teachers' Standards.

That means developing expertise in teaching is also complex. This framework is a codification of essential knowledge, skills and concepts that underpin successful leadership of teaching. It sets out what those leading teaching should know and be able to do within the specialist areas related to their role and in relation to how to put new approaches into practice.

Providers of this qualification will design a curriculum that draws on and blends together sections from across this framework with the professional standards that sit alongside it, and which is responsive to the needs of the participants who are taking the course.

The course curriculum should aim to develop expertise that is flexible and allows participants to respond to the challenges they will encounter in a range of contexts. It should also provide fellow professionals with a network, common language and access to a continuous debate through which the collective expertise of our education system can grow and develop. For the National Professional Qualification for Leading Teaching, the

use of subject-specific, phase-specific, or domain-specific exemplification materials should be embedded into the course content to enable professionals to develop expert teaching practice within their relevant context.

Updating the National Professional Qualification content frameworks

The NPQ frameworks will be kept under review as the evidence base evolves. As in any profession, the evidence base is not static and research insights develop and progress.

National Professional Qualification (NPQ): Leading Teaching Framework

This qualification is for teachers who have, or are aspiring to have, responsibilities for leading teaching in a subject, year group, key stage or phase.

One – Teaching

Participants will be effective teachers who apply a range of knowledge and skills to teaching, including those set out in the **Initial teacher training and early career framework**.

Two – School Culture

Learn that…	Learn how to…
2.1. High-quality teaching has a long-term positive effect on pupils' life chances, particularly for children from disadvantaged backgrounds. 2.2. Teacher expectations can affect pupil outcomes; setting goals that challenge and stretch pupils is essential. 2.3. Setting clear expectations can help communicate shared values that improve classroom and school culture. 2.4. Teachers have the ability to affect and improve the wellbeing, motivation and behaviour of their pupils. 2.5. Teachers are key role models, who can influence the attitudes, values and behaviours of their pupils. 2.6. Teachers can influence pupils' resilience and beliefs about their ability to succeed, by ensuring all pupils have the opportunity to experience meaningful success. 2.7. A culture of mutual trust and respect between colleagues supports effective relationships.	**Contribute to the creation of a culture of high expectations across the school by:** 2.a. Articulating, modelling and rehearsing practices that contribute to the intended school culture and the responsibilities every member of the school community has in its creation. 2.b. Developing colleagues' ability, through articulating, modelling and rehearsing, to contribute to the intended school culture within lessons and at other times during the school day (e.g. extra-curricular activities and lunchtime). 2.c. Using intentional and consistent language that promotes challenge and aspiration for all pupils and colleagues. 2.d. Creating an environment for all pupils and colleagues where everyone feels welcome and safe and learning from mistakes is part of the daily routine. **Contribute to the creation of a culture of professional learning and continuous improvement for colleagues by:** 2.e. Involving colleagues in the creation of short-, medium- and long-term priorities that will lead to improved outcomes for pupils and communicate these priorities regularly. 2.f. Prioritising professional development and a shared responsibility for continuous improvement.

Three – How Pupils Learn

Learn that…	Learn how to…
3.1. Learning involves a lasting change in pupils' capabilities or understanding.	**Explain important ideas about how pupils learn to colleagues, including by:**
3.2. 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.a. Introducing ideas about working and long-term memory. 3.b. Articulating the role that prior knowledge plays in learning.
3.3. An important factor in learning is memory, which can be thought of as comprising two elements: working memory and long-term memory.	3.c. Explaining the importance of practice in learning. 3.d. Providing subject, phase and domain specific examples, as appropriate.
3.4. Working memory is where information that is being actively processed is held, but its capacity is limited and can be overloaded.	**Support colleagues to help pupils learn by:**
3.5. Long-term memory can be considered as a store of knowledge that changes as pupils learn by integrating new ideas with existing knowledge.	3.e. Explaining how misconceptions develop and sharing approaches to prevent them forming (e.g. by talking to experienced colleagues).
3.6. Where prior knowledge is weak, pupils are more likely to develop misconceptions, particularly if new ideas are introduced too quickly.	3.f. Highlighting the importance of sequencing lessons so that pupils secure foundational knowledge before more complex content.
3.7. Regular, purposeful practice of what has previously been taught can help consolidate material and help pupils remember what they have learned.	3.g. Providing examples of how to structure lessons to ensure that pupils experience a high success rate when attempting challenging work (e.g. with scaffolds to support success being removed over time).
3.8. Requiring pupils to retrieve information from memory, and spacing practice so that pupils revisit ideas after a gap, are also likely to strengthen recall.	3.h. Additional examples of application are integrated into *sections 4, 5, 6 and 7.*

3.9. Worked examples that take pupils through each step of a new process are also likely to support pupils to learn.	

Four – Subject and Curriculum

Learn that…	Learn how to…
4.1. A school's curriculum enables it to set out the knowledge, skills and values that its pupils will learn, encompassing the national curriculum within a coherent wider vision for successful learning. 4.2. School subjects are their own distinct disciplines which have reference points in disciplines and practices beyond the school. 4.3. The potential content of many subjects (especially literature, humanities and arts) is contestable and requires thoughtful, sustained review and engagement with that subject discipline. 4.4. Secure subject knowledge helps teachers to motivate pupils and teach effectively. 4.5. Ensuring pupils master foundational concepts and knowledge before moving on is likely to build pupils' confidence and help them succeed. 4.6. 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. 4.7. Explicitly teaching pupils the knowledge and skills they need to succeed within particular subject areas is beneficial.	**Support colleagues to design a carefully sequenced, broad and coherent curriculum by:** 4.a. Ensuring colleagues recognise the inherent structures within subjects and identifying important knowledge, skills and concepts within them and the relationships between these components. 4.b. Emphasising the value of ensuring pupils' thinking is focused on important ideas within the subject and that multiple opportunities are provided to revisit these ideas over time. 4.c. Sharing and modelling powerful analogies, illustrations, examples, explanations and demonstrations for colleagues to use in their teaching. **Support colleagues to develop pupils' literacy by sharing and modelling approaches that:** 4.d. Use systematic synthetic phonics when teaching early reading phonics. 4.e. Support pupils to become fluent readers (e.g. through guided reading or repeated reading). 4.f. Improve pupils' vocabulary (e.g. through explicit instruction and by planning for pupils to repeatedly encounter important words).

4.8. For pupils to think critically, they must have a secure understanding of knowledge within the subject area they are being asked to think critically about.	4.g. Improve reading comprehension (e.g. modelling prediction, questioning, and summarising when reading).
4.9. In all subject areas, pupils learn new ideas by linking those ideas to existing knowledge, organising this knowledge into increasingly complex mental models; carefully sequencing teaching to facilitate this process is important.	4.h. Increase the quality of classroom talk (e.g. modelling the use of technical vocabulary). 4.i. Improve pupils' writing (e.g. through modelling and by combining reading and writing tasks).
4.10. Pupils are likely to struggle to transfer what has been learnt in one discipline to a new or unfamiliar context.	
4.11. 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.	
4.12. Every teacher can improve pupils' literacy, including by explicitly teaching reading, writing and oral language skills specific to individual disciplines.	

Five – Classroom Practice

Learn that…	Learn how to…
5.1. Effective teaching can transform pupils' knowledge, capabilities and beliefs about learning.	**Support colleagues to plan effective lessons by:**
5.2. Effective teachers introduce new material in steps, explicitly linking new ideas to what has been previously studied and learned.	5.a. Providing examples of how components of effective lessons (e.g. explanations, modelling, practice and questioning) might interact, highlighting that no one single structure will suit every lesson.
5.3. Modelling helps pupils understand new processes and ideas; good models make abstract ideas concrete and accessible.	5.b. Explaining that critical thinking and problem solving rely on pupils having the necessary foundational knowledge and that scaffolding should only be removed as pupils achieve high degrees of success.
5.4. Guides, scaffolds and worked examples can help pupils apply new ideas, but should be gradually removed as pupil expertise increases.	5.c. Emphasising the value of providing multiple opportunities for pupils to consolidate and practise applying new knowledge, skills and concepts.
5.5. Explicitly teaching pupils metacognitive strategies linked to subject knowledge, including how to plan, monitor and evaluate, supports independence and academic success.	5.d. Explaining how to break tasks down into constituent components when first setting up independent practice.
5.6. 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.	5.e. Ensuring that the teaching includes retrieval and spaced practice to build automatic recall of key knowledge and interleaving of concrete and abstract examples, slowly withdrawing concrete examples and drawing attention to the underlying structure of problems.
5.7. High-quality classroom discussion can support pupils to articulate key ideas, consolidate understanding and extend their vocabulary.	**Support colleagues to explain and model effectively by:**
5.8. Practice is an integral part of effective teaching; ensuring pupils have repeated opportunities to practise, with	5.f. Providing feedback on explanations that highlights the importance of explanations that start at the point of current pupil

appropriate guidance and support, increases success.

5.9. Paired and group activities can increase pupil outcomes, but to work together effectively pupils need guidance, support and practice.

5.10. How pupils are grouped is also important; care should be taken to monitor the impact of groupings on pupil outcomes, behaviour and motivation.

5.11. 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.

understanding and include concrete representation of abstract ideas (e.g. make use of metaphors).

5.g. Providing feedback on modelling that highlights the importance of narrating thought processes to make it clear how an expert might think when completing the task, drawing pupils' attention to links with prior knowledge, and making the steps in a process memorable to ensure pupils can recall them (e.g. naming them, developing mnemonics, or linking to memorable stories).

Encourage colleagues to stimulate pupil thinking and check for understanding by:

5.h. Supporting them to plan activities around what they want pupils to think hard about.

5.i. Describing how a range of question types can improve the quality of class discussions (e.g. by modelling new vocabulary or asking pupils to justify answers to extend and challenge pupils).

5.j. Providing scaffolds for pupil discussion to increase the focus and rigour of dialogue.

5.k. Suggesting approaches that support effective collaborative or paired work (e.g. clear success criteria, providing high-quality models, providing explicit guidance on how to work together effectively) whilst highlighting considerations that may affect its success (e.g. pupils' familiarity with routines, pupils having the necessary prior knowledge and how pupils are grouped).

Six – Adaptive Teaching

Learn that…	Learn how to…
6.1.　The SEND Code of Practice sets out four areas of need (communication and interaction; cognition and learning; social, emotional and mental health; and physical and/or sensory needs).	**Provide opportunities for all pupils to experience success by:** 6.a.　Ensuring interventions and support from teaching assistants and other professionals are targeted and never used as a replacement for high-quality teaching.
6.2.　Pupils are likely to learn at different rates and to require different levels and types of support from teachers to succeed.	6.b.　Providing examples of how to adapt lessons while maintaining high expectations for all, so that all pupils have the opportunity to experience success.
6.3.　Seeking to understand pupils' differences, including their different levels of prior knowledge and potential barriers to learning, is an essential part of teaching.	6.c.　Enabling colleagues to adapt lessons, make reasonable adjustments, and implement structured academic or behavioural interventions that are well-matched to pupils' needs before seeking a diagnosis or specialist support.
6.4.　Adapting teaching in a responsive way, including by providing targeted support to pupils who are struggling, is likely to increase pupil outcomes.	
6.5.　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.	**Support colleagues to adapt their teaching to different pupil needs by:** 6.d.　Sharing effective approaches for scaffolding new content and removing scaffolds over time.
6.6.　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.e.　Using different forms of assessment (including specialist assessments linked to each area of need), including within lessons, to identify pupils who need further support.
6.7.　Pupils with special educational needs or disabilities are likely to require additional or adapted support; working	6.f.　Ensuring colleagues are able to draw on support when teaching children with special educational needs and disabilities, particularly the Special Educational Needs Co-ordinator

closely with colleagues, families and pupils to understand barriers and identify effective approaches is essential.	(SENCO). **Support colleagues to meet individual needs without creating unnecessary workload by:** 6.g. Promoting the use of well-designed resources (e.g. existing high quality curricula and textbooks). 6.h. Sharing and modelling effective approaches for intervening in lessons with individuals and small groups rather than planning different lessons for different groups of pupils or taking pupils out of classrooms for interventions during lessons. **Ensure pupils are grouped effectively (across subjects and within individual classrooms) by:** 6.i. Emphasising the need to maintain high expectations for all groups and ensuring all pupils have access to a rich curriculum. 6.j. Ensuring that any groups based on attainment are subject specific, avoiding the perception that these groups are fixed.

Seven – Assessment

Learn that…	Learn how to…
7.1. Effective assessment is critical to teaching because it provides teachers with information about pupils' understanding and needs. 7.2. Good assessment helps teachers avoid being over-influenced by potentially misleading factors, such as how busy pupils appear. 7.3. Before using any assessment, teachers should be clear about the decision it will be used to support and be able to justify its use. 7.4. To be of value, teachers must 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. 7.5. 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. 7.6. Over time, feedback should support pupils to monitor and regulate their own learning. 7.7. Working with colleagues to identify efficient approaches to assessment is important; assessment can become onerous and have a disproportionate impact on workload.	**Support colleagues to avoid common assessment pitfalls by:** 7.a. Providing examples of assessment designed to indicate understanding and inform teachers' decision-making within a lesson (e.g. using hinge questions to identify misconceptions, using questioning to check that correct answers stem from secure understanding). 7.b. Explaining that it is best to draw conclusions about what pupils have learned by looking at patterns of performance over a number of assessments. **Contributing to the design of school assessment systems by:** 7.c. Choosing, where possible, unedited, externally validated materials in controlled and uniform conditions when required to make summative assessments. 7.d. Making use of well-designed resources (e.g. quality-assured, centrally created assessments and other high-quality external assessment). **Support colleagues to provide high-quality feedback by:** 7.e. Providing examples of feedback that is accurate and clear, encourages further effort, and provides specific guidance on how to improve.

	7.f. Sharing approaches to peer- and self-assessment that are likely to increase its effectiveness (e.g. by sharing model work with pupils and highlighting important details, and modelling metacognition in teaching). **Encourage colleagues to use high quality, reliable assessment without creating unnecessary workload by:** 7.g. Emphasising that written marking is only one form of feedback and explaining ways to use verbal feedback in lessons where possible. 7.h. Sharing specific approaches that reduce the opportunity cost of marking (e.g. by using abbreviations and codes in written feedback). 7.i. Prioritising the highlighting of errors related to misunderstandings, rather than careless mistakes when marking.

Eight – Professional Development

Learn that…	Learn how to…
8.1. Teaching quality is a crucial factor in raising pupil attainment.	**Contribute to effective professional development linked to teaching, curriculum and assessment across the school by:**
8.2. Helping teachers improve through evidence-based professional development that is explicitly focused on improving classroom teaching can be a cost-effective way to improve pupils' academic outcomes when compared with other interventions, and can narrow the disadvantage attainment gap.	8.a. Aligning professional development priorities with wider school improvement priorities and focussing on a shared responsibility for improving outcomes for all pupils.
8.3. Effective professional development is likely to involve a lasting change in teachers' capabilities or understanding so that their teaching changes.	8.b. Making use of well-designed frameworks and resources instead of creating new resources (e.g. sources of subject knowledge, the Early Career Framework and associated core induction programme for early career teachers, ITT Core Content Framework, suite of National Professional Qualifications,).
8.4. Professional development should be developed using a clear theory of change, where facilitators understand what the intended educational outcomes for teachers are and how these will subsequently impact pupil outcomes. Ideally, they should check whether teachers learn what was intended.	8.c. Ensuring that time is protected for teachers to plan, test and implement new, evidence-informed ideas.
	8.d. Developing a team of colleagues who can facilitate a range of professional development approaches.
8.5. Whilst professional development may need to be sustained over time, what the time is used for, is more important than the amount.	8.e. Ensuring that colleagues are able to continually develop specialist subject, phase and domain expertise.
8.6. More effective professional development is likely to be designed to build on the existing knowledge, skills and understanding of participants.	8.f. Making reasonable adjustments that are well-matched to teacher needs (e.g. to content, resources and venue).
8.7. The content of professional development programmes	8.g. Ensuring that any professional development time is used productively and that colleagues perceive the relevance to their work.

should be based on the best available evidence on effective pedagogies and classroom interventions and aim to enhance capabilities and understanding in order to improve pupil outcomes.

8.8. Teachers are more likely to improve if they feel that they are working within a supportive professional environment, where both trust and high professional standards are maintained.

8.9. Supportive environments include having the time and resource to undertake relevant professional development and collaborate with peers, and the provision of feedback to enable teachers to improve. They also include receiving support from school leadership, both in addressing concerns and in maintaining standards for pupil behaviour.

8.10. Professional development is likely to be more effective when design and delivery involves specialist expertise from a range of sources. This may include internal or external expertise.

8.11. Teacher developers should choose activities that suit the aims and context of their professional development programme. Successful models have included regular, expert-led conversations about classroom practice, teacher development groups, and structured interventions. However, these activities do not work in all circumstances and the model should fit the educational aims, content and context of the programme.

8.12. All schools with early career teachers undertaking statutory induction must adhere to the regulations and

Plan, conduct, and support colleagues to conduct, regular, expert-led conversations (which could be referred to as mentoring or coaching) about teaching by:

8.h. Building a relationship of trust and mutual respect between the individuals involved.

8.i. Tailoring the conversation to the expertise and needs of the individual (e.g. adapting conversations to be more or less facilitative, dialogic or directive).

8.j. Using approaches including observation of teaching or a related artefact (e.g. videos, assessment materials, research, lesson plans), listening, facilitating reflection and discussion through the asking of clear and intentional questions, and receiving actionable feedback with opportunities to test ideas and practise implementation of new approaches.

8.k. Where appropriate, creating opportunities to co-observe a lesson segment, exploring and modelling what a teacher with a particular area of expertise sees and thinks.

Avoid common teacher assessment pitfalls by designing approaches that:

8.l. Ensure formative assessment tasks are linked to intended outcomes.

8.m. Draw conclusions about what teachers have learned by reviewing patterns of performance over a number of assessments.

8.n. Use multiple methods of data collection in order to make inferences about teacher quality.

relevant statutory guidance.	
8.13. School staff with disabilities may require reasonable adjustments; working closely with these staff to understand barriers and identify effective approaches is essential.	

Nine – Implementation

One of the characteristics of effective schools, in addition to *what* they implement, is *how* they put those approaches into practice. This section sets out some important principles of implementation: the process of making, and acting on, effective evidence-informed decisions. The principles and activities can be applied to a range of different school improvement decisions - programmes or practices; whole school or targeted approaches; internally or externally generated ideas. The statements should be treated as guiding principles and activities, rather than as a rigid set of steps.

Learn that…	Learn how to…
9.1. Implementation is an ongoing process that must adapt to context over time, rather than a single event. It involves the application of specific implementation activities and principles over an extended period (e.g. implementation planning, ongoing monitoring).	**Plan and execute implementation in stages by:** 9.a. Ensuring that implementation is a structured process where school leaders actively plan, prepare, deliver and embed changes.
9.2. Successful implementation requires expert knowledge of the approach that is being implemented and the related area of practice (e.g. behaviour), which is shared amongst staff.	9.b. Making a small number of meaningful strategic changes and pursuing these diligently, prioritising appropriately. 9.c. Reviewing and stopping ineffective practices before implementing new ones.
9.3. Implementation should involve repurposing existing processes and resources (e.g. governance, data collection) rather than creating a separate set of procedures.	**Make the right choices on what to implement by:**
9.4. Effective implementation begins by accurately diagnosing the problem and making evidence-informed decisions on what to implement.	9.d. Identifying a specific area for improvement using a robust diagnostic process, focusing on the problem that needs solving, rather than starting with a solution. 9.e. Providing credible interpretations of reliable data that focus on pupils' knowledge and understanding.
9.5. Thorough preparation is important: time and care spent planning, communicating and resourcing the desired	9.f. Examining current approaches, how they need to change

changes provides the foundation for successful delivery. Teachers and leaders should keep checking how ready their colleagues are to make the planned changes.

9.6. Implementing an approach with fidelity (i.e. as intended) increases the chance of it impacting positively on school practice and pupil outcomes. Any approach should specify which features of the approach need to be adopted closely and where there is scope for adaptation.

9.7. A combination of integrated activities is likely to be needed to support implementation (e.g. training, monitoring, feedback) rather than any single activity. Follow-on support (e.g. through high-quality coaching) is key to embedding new skills and knowledge developed during initial training.

9.8. Delivery of a new approach is a learning process – expect challenges but aim for continuous improvement. Monitoring implementation is an essential tool in identifying, and acting on, problems and solutions.

9.9. The confidence to make good implementation decisions is derived, in part, from confidence in the data on which those decisions are based. Reliable monitoring and evaluation enable schools to make well-informed choices, and to see how their improvement efforts are impacting on teacher knowledge, classroom practices and pupil outcomes.

9.10. A school's capacity to implement an approach is rarely static (e.g. staff leave, contexts change). Sustained implementation requires leaders to keep supporting and rewarding the appropriate use of an approach and check

and the support required to do so.

9.g. Adopting new approaches based on both internal and external evidence of what has (and has not) worked before (e.g. pupil outcome data and research-based guidance).

9.h. Ensuring it is suitable for the school context, recognising the parameters within which the change will operate (e.g. school policies) and where the school is in its development trajectory (e.g. addressing any significant behaviour problems would be an immediate priority).

9.i. Assessing and adapting plans based on the degree to which colleagues are ready to implement the approach (e.g. current staff motivation and expertise).

Prepare appropriately for the changes to come by:

9.j. Being explicit about what will be implemented, and the overall desired outcomes.

9.k. Specifying the elements of the approach that appear critical to its success (i.e. the 'active ingredients') and communicating expectations around these with clarity.

9.l. Developing a clear, logical and well specified implementation plan, and using this plan to build collective understanding and ownership of the approach.

9.m. Using an integrated set of implementation activities that work at different levels in the school (e.g. individual teachers, whole school changes).

it is still aligned with the overall strategy and context.	**Deliver changes by:**
9.11. Implementation benefits from dedicated but distributed school leadership. Senior leaders should provide a clear vision and direction for the changes to come. At the same time, implementation is a complex process that requires feedback from staff and shared leadership responsibilities.	9.n. Managing expectations and encouraging 'buy-in' until positive signs of changes emerge.
	9.o. Monitoring implementation (including by clearly assigning and following up on the completion of critical tasks) and using this information to tailor and improve the approach over time (e.g. identifying a weak area of understanding and providing further training).
9.12. Implementation processes are influenced by, but also influence, school climate and culture. Implementation is easier when staff feel trusted to try new things and make mistakes, safe in the knowledge that they will be supported with resources, training, and encouragement to keep improving.	9.p. Reinforcing initial training with expert follow-on support within the school.
	9.q. Prioritising the 'active ingredients' of the approach until they are securely understood and implemented, and then, if needed, introducing adaptations.
	Sustain changes by:
	9.r. Using reliable monitoring and evaluation to review how the implementation activities are meeting the intended objectives and continue to align with school improvement priorities.
	9.s. Continuing to model, acknowledge, support, recognise and reward good approaches.
	9.t. Treating scale-up of an approach as a new implementation process (e.g. from one department to another).

References

Teaching

Department for Education (2019). Early Career Framework. [Online] Accessible from:
https://www.gov.uk/government/publications/early-career-framework

School Culture

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). Toolkit: Behaviour interventions. [Online] Accessible from: https://educationendowmentfoundation.org.uk/resources/teaching-learning-toolkit/behaviour-interventions [retrieved 10 October 2018].

Education Endowment Foundation (2018). Toolkit: Social and emotional learning. [Online] Accessible from:

https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/social-and-emotional-learning/ [retrieved 10 October 2018].

Evidence Based Education (2020). Evidence Review Resources. Great Teaching Toolkit. [Online] Accessible from https://www.greatteaching.com/resources [retrieved 5 August 2020]

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, 9*(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.

OECD (2015). Do teacher-student relations affect students' well-being at school? *PISA in Focus*, *50*, https://doi.org/10.1787/5js391zxjjf1-en.

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. Accessible 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.

How Pupils Learn

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.

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/improving-secondary-science/ [retrieved 10 October 2018].

Gathercole, S. E., Lamont, E., & Alloway, T. P. (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., & Clark, R. E. (2006). Why Minimal Guidance During Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-Based, Experiential, and Inquiry-Based Teaching. *Educational Psychologist, 41*(2), 75–86. https://doi.org/10.1207/s15326985ep4102_1.

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 Domain-Specific Prior Knowledge and Learning : A Meta-Analysis Universität Trier, Germany PH Schwyz , Switzerland, (February).

Sweller, J. (2012). Human cognitive architecture: Why some instructional procedures work and others do not. In K. Harris, S. Graham & T. Urdan (Eds.), *APA Educational Psychology Handbook* (Vol. 1, pp. 295-325). Washington, D.C.: American Psychological Association.

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

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. Accessible from: 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/improving-secondary-science/ [retrieved 10 October 2018].

Education Endowment Foundation (2018). Preparing for Literacy Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/Publications/Literacy/Preparing_Literacy_Guidance_2018.pdf [retrieved 17 August 2020].

Education Endowment Foundation (2018). Toolkit: Mastery approaches. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/mastery-learning/ [retrieved 17 August 2020].

Education Endowment Foundation (2018). Toolkit: Phonics. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/phonics/ [retrieved 17 August 2020]..

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-inflexible-knowledge

Classroom Practice

Alexander, R. (2017). *Towards Dialogic Teaching: rethinking classroom talk.* York: Dialogos.

Bennett, T. (2015). Group work for the good. *American Educator, Spring 2015*. Accessible from: https://files.eric.ed.gov/fulltext/EJ1063868.pdf.

Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014). *What makes great teaching. Review of the underpinning research*. Durham University: UK. Accessible from: 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.

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/literacy-ks-1/ [retrieved 10 October 2018].

Education Endowment Foundation (2017). Dialogic Teaching: Evaluation Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/projects-and-evaluation/projects/dialogic-teaching [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/maths-ks-2-3/ [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/metacognition-and-self-regulated-learning/ [retrieved 10 October 2018].

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

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

Education Endowment Foundation (2018). Toolkit: Homework (Primary). [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/homework-primary/ [retrieved 10 October 2018].

Education Endowment Foundation (2018). Toolkit: Homework (Secondary). [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/homework-secondary/ [retrieved 10 October 2018].

Education Endowment Foundation (2018). Toolkit: Oral Language Interventions. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/oral-language-interventions/ [retrieved 10 October 2018].

Education Endowment Foundation (2018). Toolkit: Peer Tutoring. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/peer-tutoring/ [retrieved 10 October 2018].

Education Endowment Foundation (2018). Toolkit: Within-class attainment groupings. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/within-class-attainment-grouping/ [retrieved 15 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.

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.

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.

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. https://doi.org/10.1037/bul0000151.

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. (2012). Human cognitive architecture: Why some instructional procedures work and others do not. In K. Harris, S. Graham & T. Urdan (Eds.), *APA Educational Psychology Handbook* (Vol. 1, pp. 295-325). Washington, D.C.: American Psychological Association.

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

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.

Department for Education (2015). Special Educational Needs and Disability Code of Practice: 0 to 25 Years: Statutory guidance for organisations which work with and support children and young people who have special educational needs or disabilities (6.4, DFE00205-2013). [Online] Accessible from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/398815/SEND_Code_of_Practice_January_2015.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). Toolkit: Individualised instruction. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/individualised-instruction/ [retrieved 17 August 2020].

Education Endowment Foundation (2018). Toolkit: Learning Styles. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/learning-styles/ [retrieved 17 August 2020].

Education Endowment Foundation (2018). Toolkit: Within-class attainment grouping. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/within-class-attainment-grouping/ [retrieved 17 August 2020].

Education Endowment Foundation (2020). Special Educational Needs in Mainstream School: Guidance Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/special-educational-needs-disabilities/ [retrieved 17 August 2020].

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

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.

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* (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

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

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. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/Presentations/Publications/EEF_Marking_Review_April_2016.pdf [retrieved 17 August 2020].

Education Endowment Foundation (2018). Embedding Formative Assessment: Evaluation Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/EFA_evaluation_report.pdf [retrieved 10 October 2018].

Education Endowment Foundation (2018). Toolkit: Feedback. [Online] Accessible from: https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/feedback/ [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/401406/RR445_-_Workload_Challenge_-_Analysis_of_teacher_consultation_responses_FINAL.pdf.

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

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.

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.

Wynne Harlen & Mary James (1997). Assessment and Learning: differences and relationships between formative and summative assessment, *Assessment in Education: Principles, Policy & Practice, 4(*3), 365-379

Professional Development

Aaronson, D., Barrow, L. and Sander, W. (2007). Teachers and Student Achievement in the Chicago Public High Schools. *Journal of Labor Economics*, *25*(1), 95-136.

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

Darling-Hammond L, Hyler ME and Gardner M (2017) Effective teacher professional development. Palo Alto, CA: Learning Policy Institute. [Online] Accessible from: https://learningpolicyinstitute.org/product/teacher-prof-dev [retrieved 15 June 2019].

Department for Education (2019). Early Career Framework. Accessible from: https://www.gov.uk/government/publications/early-career-framework

Department for Education (2019). Initial Teacher Training (ITT): core content framework. Accessible from: https://www.gov.uk/government/publications/initial-teacher-training-itt-core-content-framework

Department for Education (2016). Standard for teachers' professional development: Implementation guidance for school leaders, teachers, and organisations that offer professional development for teachers. [Online] Accessible from: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/537031/160712_-_PD_Expert_Group_Guidance.pdf [retrieved 15 June 2019].

Education Endowment Foundation (2018). Embedding Formative Assessment: Evaluation Report. [Online] Accessible from: https://educationendowmentfoundation.org.uk/public/files/EFA_evaluation_report.pdf [retrieved 10 October 2018].

Education Endowment Foundation (2018). Making best use of teaching assistants. [Online] Accessible from: https://educationendowmentfoundation.org.uk/tools/guidance-reports/making-best-use-of-teaching-assistants/ [retrieved 17 August 2020].

Fletcher-Wood, H., & Zuccollo, J. (2020). The effects of high-quality professional development on teachers and students: A rapid review and meta-analysis. *Wellcome Trust.* [Online] Accessible from: https://epi.org.uk/wp-content/uploads/2020/02/EPI-Wellcome_CPD-Review__2020.pdf [retrieved 13 July 2020].

Hamre, B. K., & Pianta, R. C. (2005). Can instructional and emotional support in the first-grade classroom make a difference for children at risk of school failure? *Child Development*, *76*(5), 949-967.

Kennedy, M. (2016). How does professional development improve teaching? *Review of Educational Research 86*(4): 945–980.

Kini, T., & Podolsky, A. (2016). *Does Teaching Experience Increase Teacher Effectiveness? A Review of the Research.* Palo Alto, CA: Learning Policy Institute.

Kraft, M.A., Blazar, D., & Hogan, D. (2018). The effect of teaching coaching on instruction and achievement: A meta-analysis of the causal evidence. *Review of Educational Research, 88*(4), 547-588

Kraft, M. A., & Papay, J. P. (2014). Can professional environments in schools promote teacher development? Explaining heterogeneity in returns to teaching experience. *Educational evaluation and policy analysis*, *36*(4), 476-500.

Pianta, R. C., & Hamre, B. K. (2009). Conceptualization, measurement, and improvement of classroom processes: Standardized observation can leverage capacity. *Educational researcher*, *38*(2), 109-119.

Slater, H., Davies, N. M., & Burgess, S. (2012). Do teachers matter? Measuring the variation in teacher effectiveness in England. *Oxford Bulletin of Economics and Statistics*, *74*(5), 629-645.

Wiliam, D. (2018). *Creating the Schools Our Children Need: Why What We're Doing Now Won't Help Much (And What We Can Do Instead).* West Palm Beach, FL: Learning Sciences International.

Implementation

Aarons, G.A. (2006). Transformational and Transactional Leadership: Association With Attitudes Toward Evidence-Based Practice. *Psychiatric Services. 57*(8): p1162–1169. https://doi.org/10.1176/ps.2006.57.8.1162

Albers, B., Pattuwage, L. (2017). Implementation in education: Findings from a scoping review. *Melbourne: Evidence for Learning.*

Anders, J., Godfrey, D., & Nelson, R. (forthcoming). *EEF Projects Review.* London: UCL Institute of Education

Dyssegaard, C. B., Egelund, N., & Sommersel, H. B. (2017). *What enables or hinders the use of research-based knowledge in primary and lower secondary-a systematic review and state of the field analysis*. Dansk Clearinghouse for Educational Research, DPU, Aarhus University.

Kraft, M.A., 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, 88*(4):547–588.

Powell, B.J., Proctor, E.K. & Glass, J.E. (2014). A Systematic Review of Strategies for Implementing Empirically Supported Mental Health Interventions. *Research on Social Work Practice, 24*(2): p192–212.

Proctor, E., Silmere, H., Raghavan, R., Hovmand, P., Aarons, G., Bunger, A., ... & Hensley, M. (2011). Outcomes for Implementation Research: Conceptual Distinctions, Measurement Challenges, and Research Agenda. *Administration and Policy in Mental Health and Mental Health Services Research, 38*(2) p65–76.

Sharples, J.M., Albers, B., Fraser, S, Kime, S. (2018). Putting Evidence to Work – A School's Guide to Implementation, London: EEF

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