

We Need a **Revolution** in Professional Learning

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Policies change, but great teaching is timeless.

1. Overview: why we need a revolution in professional learning

For many teachers, school leaders and college leaders, professional learning is still far from what it could be. It is often treated as an extra thing: fitted into INSET days, twilight sessions, one-off workshops, or whatever time remains after the urgent business of school and college life has taken its share. It is too often generic, episodic, weakly connected to teachers' real work, and rarely evaluated in ways that tell us whether it has changed teacher expertise, classroom practice or student learning.

That should trouble us. A profession built around learning should be much more serious about the learning of its own professionals. We would not accept a model of student learning that was occasional, one-size-fits-all, poorly sequenced and barely assessed. Yet that is too often what we offer teachers.

This is not because teachers are unwilling to learn. Nor is it because schools and colleges do not care about improvement. The problem is more uncomfortable than that: our systems often assume that expertise will develop through experience, goodwill and exposure to ideas. Sometimes it does. But not reliably enough, not substantially enough, and not for enough teachers. Experience matters, but experience alone is not a professional learning strategy. Sometimes, improvement strategies seem to assume that teacher expertise does not matter, that compliance with consistently applied policies can raise standards without the hard work of building expertise. That is a mistake.

The argument of this paper is simple: if we want better learning and greater equity for young people, we must become much more serious about the learning of the adults who teach them.

High-quality, evidence-informed professional learning may be the best long-term bet we have for sustainable school and college improvement: not because it is easy, quick or cheap, but because expertise, once developed, travels with teachers into every lesson, every class and every year of their career. Unlike many interventions, whose effects last only while the intervention is being implemented, improved expertise can keep paying forward.

That does not make professional learning easy. School and college leaders are right to worry about workload, time, budget and initiative overload. Teachers are right to be sceptical if their past experience of professional development has been thin, generic or disappointing. A call to prioritise professional learning can easily sound like a call to add yet another thing to an already very challenging job.

It must not be that. This is not a call for teachers to work harder. It is a call for the whole sector to think harder about how improvement really happens. If the route to better outcomes is better teaching, and the route to better teaching is better expertise, then professional learning cannot remain peripheral. It has to become the core work of school and college improvement.

That is why this paper ends with a practical invitation: the Professional Learning Promise. We invite schools, colleges, groups and trusts to make a public commitment to prioritising the development of expertise, protecting time for professional learning, aligning professional learning with the best available evidence, and evaluating and improving it over time.

2. What is the revolution?



The revolution is **not** a new programme, product or initiative. It is a change in what we treat as normal.

It means treating teachers as learners, not merely as deliverers of learning. It means designing professional learning with the same seriousness that we expect teachers to bring to students' learning. It means making the development of expertise the central strategy for improvement, rather than hoping that expertise will accumulate through experience alone, or that it can be bypassed. It means protecting time for learning, because important things rarely become urgent by themselves. It means grounding professional learning in the best available evidence about how teachers learn, while recognising that schools and colleges need intelligent adaptation, not mechanical compliance. And it means evaluating professional learning by asking whether it is changing expertise, practice and, where feasible, student outcomes.

In short: If it doesn't build expertise, it probably isn't school and college improvement.

For some schools and colleges, this will not feel revolutionary. They have already made professional learning part of everyday work. They already act as if improvement is for everyone, not just for those who are struggling. They already understand the spirit of **always proud, never satisfied**. They already evaluate professional learning and improve it in response to evidence.

For many others, though, this is a radical shift. It requires a change in priorities, routines, expectations and culture.

It asks leaders to stop treating professional learning as a bolt-on and start treating it as the main route to better teaching. It asks teachers to see improvement not as a judgement that something is wrong, but as part of the dignity and responsibility of professional life. And it asks the system to stop looking for improvement strategies that work around teacher expertise, and instead to invest in the slow, difficult, cumulative work of building it.

This matters because school and college improvement does not happen simply by being written in plans, policies or paperwork. It happens when the quality of classroom interactions improves: when teachers make better decisions, give better explanations, ask better questions, create more inclusive conditions for learning, respond better to pupils' thinking, and help more children and young people learn more. Those changes disproportionately help the pupils who find it hardest to learn, who are most dependent on great teaching. Those changes depend on expertise. And expertise does not grow by accident.

This is the conviction behind our work at Evidence Based Education, including the Great Teaching Toolkit (GTT). The GTT is not presented here as the revolution itself, nor as the only way to do this work. But it has been developed from a belief that professional learning has to become more rigorous, more sustained, more connected to classroom reality and more concerned with the growth of teacher expertise over time. It is one practical expression of the wider argument made in this paper: that school and college improvement depends not only on what leaders decide, but on what teachers are helped to learn, practise and get better at doing.

3. The three changes



This paper argues for three changes:



Make professional learning a protected priority



Design professional learning to build expertise



Evaluate whether professional learning is working.

3.1 Make professional learning a protected priority

First, we need to make professional learning a protected priority.

Time is never neutral. The time we give to something is a signal of the importance we attach to it. Professional learning is rarely urgent in the way that behaviour incidents, safeguarding concerns, parental complaints, cover problems or inspection preparation feel urgent. If a professional learning session is missed, there may be no immediate pain. Nobody knocks on the office door. No alarm sounds. In fact, no one may even notice. But that is exactly why the time has to be protected. Important things that are not urgent are easily displaced by urgent things that may not matter as much in the long run.

This does not mean simply adding more work. In many schools and colleges, making time for professional learning will mean stopping some good things in order to make room for better things. Existing meetings, marking routines, data drops, interventions and administrative processes may all need to be questioned. The point is not to do more. The point is to decide what is most likely to build expertise, improve classroom interactions and benefit students over time — and then make that possible.

This is a leadership responsibility, but leaders do not operate in ideal conditions. Tight budgets, staffing pressures, accountability demands and statutory responsibilities can make protecting time genuinely difficult. Some schools and colleges will have far more room for manoeuvre than others. But even within those constraints, what gets protected, what gets displaced and what is allowed to become optional remain crucial leadership choices. If building expertise is one of the strongest long-term routes to sustainable improvement, then professional learning cannot be the thing that happens only when everything else has been done. It has to be part of the work.



3.2 Design professional learning to build expertise

Second, we need to design professional learning to build expertise.

Too much professional development has been organised around inputs: sessions delivered, courses completed, meetings attended, resources shared. But attendance is not learning, and activity is not expertise. If professional learning is to make a difference, it must be designed around what teachers are learning to understand, decide and do.

That means professional learning should help teachers develop and commit to clear goals for improvement. Work toward achieving these goals should focus on three things:

1. building better understanding of the principles underpinning particular approaches;
2. developing practical skills through modelling, rehearsal, feedback and refinement; and
3. embedding new practices until they become fluent, routine and habitual.

It should not be one-size-fits-all, any more than good teaching should be one-size-fits-all. Teachers need professional learning that is coherent enough to be powerful, but responsive enough to connect with their subjects, phases, students, contexts and current expertise.

This does not mean every school or college needs the same programme, timetable or routine. Nor does it mean that professional learning should be reduced to compliance with a checklist. But it does mean that professional learning must be designed deliberately. The question is not whether teachers have been exposed to useful ideas. The question is whether the experience has helped them build the expertise to use those ideas well.



3.3 Evaluate whether professional learning is working

Third, we need to evaluate whether professional learning is working.

Too often, evaluation stops at poor proxies for impact: whether people attended, whether they enjoyed it, whether they felt inspired, whether they said they intended to change their practice. These things may matter, but they are not enough. A professional learning programme could score well on all of them and still make little difference to what happens in classrooms.

Better evaluation asks harder and more useful questions. Is there a clear theory of change? Is the professional learning aligned with the best available evidence? Is it being enacted well? Are teachers' knowledge, thinking, motivation or habits changing? Is classroom practice changing? Are those changes sustained? Is there plausible evidence that students are benefiting? And, where it is feasible, is there stronger evidence that those benefits are attributable to the professional learning?

Most schools and colleges will not be able to prove the causal impact of professional learning on student outcomes in any simple way. But they can gather much better evidence than attendance, satisfaction and inspiration. The aim is not perfect proof. The aim is better evidence, better decisions and feedback creating better professional learning.

These three changes — priority, design and evaluation — are the practical heart of the professional learning revolution. The rest of this paper explains why they matter, what evidence supports them, and how schools and colleges might begin to act on them.

4. Why current professional learning falls short

This section may read as critical, but it is intended in a spirit of optimism. If we want to improve professional learning, we first have to see it clearly. And there is a hopeful side to that. If teachers, schools and colleges achieve as much as they do despite the weaknesses of current professional learning, how much more might be possible if professional learning were designed, prioritised and evaluated better?

The problem is not that teachers do not learn. Teachers learn constantly: from experience, from colleagues, from pupils, from mistakes, from new classes, from curriculum changes, from crises and from the daily demands of the job. The problem is that the system often does not support that learning well enough. Too much is left to chance.

Professional learning currently falls short in four main ways. It is too often marginal, too often generic, too often disconnected from teachers' real work, and too often weakly evaluated.

4.1 Too often marginal

Teachers already take part in professional development. The issue is not that nothing happens. The issue is that too much of what happens is squeezed into the margins of school and college life.

Estimates of how much time teachers spend on professional development vary, partly because different studies count different activities. OECD TALIS data suggest that teachers in England spend less time on professional development than teachers in many other systems, while DfE survey data suggest that time spent on formal CPD activities may be considerably lower still (Adams et al., 2023; Van den Brande & Zuccollo, 2021). A project that aimed to provide an entitlement to 35 hours of high-quality CPD annually found that only a minority of participating teachers met both the time and quality criteria at baseline, though this improved over the course of the project (Leonardi et al., 2022).

The precise number of hours is less important than the implication. Even 35 hours a year is less than one hour a week on average. For a profession in which expertise matters so much, that is a small proportion of time.

But time is not just a quantity. It is also a signal. When professional learning is squeezed into occasional INSET days, twilight sessions, staff meeting leftovers or optional extras, the message is clear: this matters, but not quite as much as everything else. And because professional learning rarely produces immediate visible pain when it is displaced, it is particularly vulnerable to being crowded out.

That is why professional learning has to be protected. Not because teachers need more to do, but because important things that are not urgent are easily displaced by urgent things that may not matter as much in the long run.

4.2 Too often generic

A second problem is that professional learning is too often generic. It is typically delivered to everyone in the same way, at the same time, regardless of subject, phase, role, prior expertise, current goals or classroom context.

There is an obvious irony here. We would not accept a model of student learning that had no coherent curriculum, ignored what pupils already know, gave everyone the same input, provided little opportunity to practise, and then failed to check whether learning had happened. Yet professional learning for teachers is still too often designed in exactly that way.

This does not mean that all professional learning must be narrowly subject-specific. Some practices — formative assessment, questioning, feedback, classroom discussion, modelling, explanation — cut across subjects and phases. But even these cross-cutting practices have to be translated into particular classrooms, subjects, curricula and pupils. Professional learning needs to be close enough to teachers' real work to change what they notice, decide and do.

The question is therefore not simply: Was professional development provided? It is: Was it designed in a way that could plausibly change teacher expertise?

4.3 Too often disconnected from practice

A third problem is that professional learning is too often disconnected from teachers' daily work. It may introduce ideas, share research, offer strategies or provide inspiration, but not always in a form that helps teachers change the complex, moment-by-moment decisions they make in classrooms.

Teaching is not just the delivery of techniques. It is professional judgement under conditions of uncertainty. Teachers choose examples, interpret pupil responses, decide when to move on and when to pause, adapt explanations, manage participation, respond to misconceptions, maintain relationships, and balance demand with support. If professional learning does not help teachers make those decisions better, it is unlikely to have much sustained impact.

This is one reason why attendance is such a poor measure of success. A teacher can attend a session, enjoy it, agree with it, and still leave without the knowledge, skill, feedback or support needed to do anything differently on Monday morning. Activity is not expertise.

Professional learning that changes practice needs to do more. It needs to help teachers understand why an approach matters, see what it looks like, rehearse aspects of it, adapt it to their context, receive feedback, refine it, and keep working on it until it becomes part of fluent practice.

4.4 Too often weakly evaluated

A fourth problem is that professional learning is too often evaluated weakly, if at all. Where evaluation does happen, it often relies on poor proxies: attendance, completion, satisfaction, inspiration, confidence or stated intention to change.

These things are not worthless. It is better if teachers attend, engage, find value in the experience and feel motivated to improve. But none of these tells us enough about whether professional learning has changed expertise, practice or student learning.

This matters because weak evaluation allows weak professional learning to survive. If we only ask whether people liked it, we may keep doing things that are enjoyable but ineffective. If we only ask whether people

attended, we may confuse compliance with learning. If we only ask whether people intend to change, we may never find out whether change actually happened.

Better evaluation does not mean every school or college has to run a randomised controlled trial. Most schools and colleges will not be able to prove the causal impact of professional learning on student outcomes in any simple way. But they can ask better questions. Is there a clear theory of change? Are teachers learning what the programme intended them to learn? Is practice changing? Are changes sustained? Is there plausible evidence that students are benefiting? And what is the professional learning itself learning from this evidence?

Evaluation is not judgement. It is how professional learning learns.

4.5 The result: low expectations

When professional learning is marginal, generic, disconnected from practice and weakly evaluated, we should not be surprised if teachers have low expectations of it.

Surveys of teachers suggest dissatisfaction with aspects of current provision and limited confidence that professional development will substantially improve practice. For example, Allen et al. (2024) report low levels of strong agreement that teachers have clear goals for improving classroom teaching, low perceived usefulness of some INSET provision, and limited confidence that recent professional development has helped them become better teachers. Teachers also report practical barriers to professional development, including workload, cover, cost and lack of support (Ofsted, 2024).

We should be careful how we interpret this. It does not show that teachers are uninterested in learning. It may show something more troubling: that too many teachers have experienced professional development that has not earned their confidence.

That is why the answer is not simply "more CPD". More of the same will not be enough. The aim is not more professional learning, but better professional learning: more coherent, more connected to practice, more responsive to teachers as learners, and more serious about evidence of impact.

The case for revolution begins there.

5. Why teacher expertise is the best long-term bet



If professional learning is to be the core work of school and college improvement, we need to be clear about why. The case is not simply that teachers matter. The case is more specific: if we want sustainable improvement in student learning, we need to improve the quality of classroom interactions. And if we want to improve the quality of classroom interactions, we need to build teacher expertise.

That is why professional learning matters so much. It is the main route by which expertise can be developed deliberately, cumulatively and at scale.

5.1 Experience matters, but experience alone is not enough

Teachers do, on average, improve with experience. It would be surprising if they did not. Teaching is complex, and repeated experience of planning lessons, explaining ideas, interpreting pupils' responses, managing classrooms, adapting curriculum materials, working with colleagues and responding to feedback should develop expertise over time (Bell et al., 2025; Kini and Podolsky, 2016; Kraft and Papay, 2014).

But experience alone does not reliably produce the scale, pace or distribution of improvement we need and should want. Some teachers improve substantially. Some improve more slowly. Some improve in some areas but not others. Some work in environments that help them learn from experience; others work in environments where the daily demands of the job make sustained professional learning much harder.

The problem is not that teachers cannot improve. It is that improvement is too often left to chance.

That matters because teaching does not appear to be a simple learning journey in which expertise automatically arrives with time served. Experience creates opportunities to learn, but it does not guarantee that learning will happen. Without clear goals, useful feedback, strong models, structured opportunities to practise, collaboration with colleagues, and time to reflect and refine, experience may simply reinforce existing habits.

So the question is not whether experience matters. It does. The question is whether we are content to rely on experience alone as our main professional learning strategy. We should not be.

Experience matters, but experience alone is not a professional learning strategy.

5.2 Improvement happens through classroom interactions

School and college improvement is often described through plans, priorities, policies, structures, interventions and accountability routines. All of these may matter. But they matter only insofar as they change the quality of what students experience.

Learning happens through interactions: between teachers and students, between students and the curriculum, and among students themselves. Teachers explain, question, model, listen, prompt, check, adapt, respond, encourage, challenge and decide. Students attend, interpret, practise, discuss, struggle, misunderstand, remember, connect and think. The curriculum shapes what is worth learning and how ideas build over time (Bryk et al., 2010; Coe et al., 2020; Cohen et al., 2003; Pianta & Hamre, 2009).

If those interactions improve, students are more likely to learn more. If they do not improve, we should be cautious about claiming that school and college improvement has happened, however impressive the plan or initiative may look. Crucially, the quality of classroom interactions matters most for students who find it hardest to learn, whether because of SEND, disadvantage, gaps in prior knowledge, or any other reason. Great teaching is inclusive teaching.

That is why classroom interactions sit at the heart of the theory of change. Better assessment systems, curriculum plans, behaviour policies, leadership routines, data meetings or interventions can all contribute to improvement. But they do so by changing what teachers and students do together around the curriculum. If they do not alter those interactions, their effect on learning is likely to be limited or short-lived.

The arena of school and college improvement is the classroom. The mechanism is better interaction. The route is expertise.

5.3 Expertise is what helps teachers make better decisions

Teacher expertise is not a single thing. It is not just subject knowledge, nor generic pedagogy, nor charisma, nor experience. It is a complex combination of what teachers know, understand, notice, decide, do and care about (Alicea et al., 2024; Hill et al., 2022; Kennedy, 2016; Korthagen, 2017).

Expert teachers see more. They notice patterns in pupils' thinking that others may miss. They anticipate misconceptions. They choose examples carefully. They know when a pupil's answer signals secure understanding and when it hides a fragile one. They can explain an idea in more than one way. They know which questions are likely to reveal thinking. They can maintain warmth and high expectations at the same time. They can adapt without losing sight of the learning goal (Kennedy, 2016; Korthagen, 2017).

This expertise depends on both understanding **and** skill.

Teachers need understanding: of the subject, of the curriculum, of how students learn particular ideas, of why certain strategies and techniques may work, of when they are likely to fail, and of how to adapt them. They need to understand not just **what** to do, but **why, when, how** and **with what**.

Teachers also need practical skill. Knowing why and how questioning matters is not the same as asking good questions in a live classroom. Knowing why and how feedback should move learning forward is not the same as giving feedback that students understand and use. Knowing why and how students need to think hard is not the same as designing tasks that make hard thinking likely.

This is the knowing-doing gap. Professional learning that only changes what teachers know may not change what they do. Professional learning that only gives teachers tips and techniques may not help them decide and adapt intelligently. Expertise requires both: better understanding and better practice.

5.4 Expertise compounds

This is the strongest long-term argument for professional learning.

Many school and college improvement activities have effects only while they are being implemented. A catch-up intervention helps the students who receive it. A particular programme may help while it is funded, staffed and monitored. A new policy may have an effect while leaders keep attention fixed on it. Some of these things are valuable. Some may be necessary. But their benefits often depend on continued implementation.

Teacher expertise is different. Expertise, once developed, keeps working. Policies change, but great teaching is timeless.

A teacher who becomes better at explaining difficult ideas does not use that expertise once. They use it across lessons, classes, topics and years. A teacher who becomes better at checking for understanding, managing discussion, responding to misconceptions, or creating a supportive environment for learning carries that expertise into future teaching. It benefits pupils who were never even around at the time of the original professional learning programme. It shapes decisions made long after the training session has ended.

In this sense, expertise behaves rather like compounding interest in the classroom. The analogy is imperfect: teaching contexts change, curricula shift, pupils differ, and teachers' working conditions matter. But the underlying point is important. Expertise, once developed, can keep shaping future decisions and interactions. It accumulates slowly, sometimes painfully, and rarely in a neat straight line. But once developed, it becomes part of the teacher's professional identity and repertoire. It can increase the quality of future interactions, create further opportunities for learning, and make later professional learning easier because new ideas connect to a richer base of existing understanding and skill.

This does not mean professional learning is quick or cheap. It often is not. But it is one of the few improvement strategies whose benefits can travel beyond the moment of implementation. That is why it is one of the strongest long-term candidates for sustainable improvement.



5.5 Why bolt-on improvement is not enough

Many school and college improvement strategies are built around identifying a problem, choosing an intervention, implementing it, monitoring it and evaluating whether the target has moved. Sometimes that is exactly what is needed. Schools and colleges face real problems that require specific responses.

But there are limits to this model. Interventions often have small effects. Even promising effects can reduce when programmes are scaled, adapted or implemented under real-world conditions. Effects may fade over time, especially if the intervention is not supported by routine high-quality teaching. Interventions not supported by expertise are vulnerable to lethal mutations. And repeated initiatives can consume time, attention and goodwill without building the underlying expertise that would make future improvement more likely (Bailey et al., 2020; Cheung & Slavin, 2016; Jacob et al., 2010;

Kraft et al., 2026; Lortie-Forgues & Inglis, 2019; Sims et al., 2023; Slavin & Smith, 2009; Watts et al., 2019, 2025). Sometimes interventions are targeted at particular learners. While this can be appropriate, it can also be inefficient and inequitable. Inclusion should be by design, not a bolt-on or compensation.

There is also a cultural risk. If improvement is framed mainly as a response to underperformance, it can become associated with deficiency. We diagnose weaknesses, identify gaps, impose support, and monitor compliance. Even when the language is softened, the message can remain: improvement is for those who are not good enough.

That is the wrong mindset.

A stronger improvement culture starts from a different assumption: improvement is for everyone. Even if you are doing well, you can get better. Even if your school or college is strong, it can become stronger. Even if your teaching is already good, there is more to understand, notice, decide and do. We can be doing a great job, rightly proud of what we achieve, and still feel the drive to be even better.

That is the meaning of: **Always proud, never satisfied.**

It is not a slogan of permanent dissatisfaction. It is the opposite. It makes pride and improvement compatible. It says that we can recognise what is already good without pretending it cannot be better. It turns improvement from a judgement into a professional norm.



5.6 School and college environment matters too

None of this means that individual teachers carry the whole burden of improvement. They do not. The same teacher may find it easier or harder to teach well depending on the environment in which they work (Coe et al., 2022; Jackson & Bruegmann, 2009; Kraft et al., 2026).

School and college environment matters. Behaviour systems, curriculum coherence, trust, collaboration, leadership, workload, feedback culture, professional norms and time all shape whether teacher expertise can grow and whether it can be enacted. A teacher with strong expertise may still struggle in a chaotic or unsupportive environment. A teacher with developing expertise may grow much faster in a school or college where professional learning is protected, feedback is useful, and colleagues work together on shared problems of practice.

This is why leadership matters. Leaders create the conditions in which professional learning is either marginal or central, fragmented or coherent, performative or powerful. They decide what gets protected and what gets displaced. They decide whether improvement is treated as a compliance exercise or a shared professional responsibility.

Given the scale of investment in leadership development, the evidence base for how best to develop leader expertise remains thinner and less practically specified than we might expect. That should make us curious, not

complacent. If teacher expertise matters, then leader expertise matters too: not because leaders improve learning directly in every classroom, but because they create the conditions in which teachers can keep getting better.



5.7 The theory of change in one paragraph

The theory of change is therefore simple, though the work is not.

If we want all students to learn more, we need to improve the quality of classroom interactions among teachers, students and the curriculum. If we want better classroom interactions, we need to build teacher expertise. If we want to build teacher expertise, we need professional learning that is prioritised, carefully designed, connected to teachers' real work, supported by the school environment, and evaluated in ways that help it improve.

That is why professional learning is not a peripheral activity. It is not something to fit in after the real school and college improvement work is done.

It is the work.

6. What high-quality professional learning needs to contain

If professional learning is to build expertise, it cannot simply consist of useful input, good intentions or exposure to interesting ideas. It has to be designed around how teachers actually learn.

The evidence does not show that professional development works simply because it is professional development. It shows something more useful: some professional learning, designed and enacted in particular ways, can improve teacher practice and student outcomes; much of what passes for professional development probably does not (Collin & Smith, 2021; Sims et al., 2021, 2025).

That distinction matters. The question is not whether a school or college has “done CPD”. The question is whether teachers have been supported to build the understanding, skill, judgement and habits that make better classroom interactions more likely.

In the Great Teaching Toolkit, we often describe this through four linked purposes: Goals, Understanding, Skills and Habits. Other frameworks use slightly different language. Sims et al. and the EEF guidance, for example, distinguish mechanisms related to insight, motivation, techniques and practice. The labels matter less than the underlying point: professional learning has to help teachers know what they are trying to improve, understand why and how improvement might happen, develop the skill to do something better, and embed that improvement into routine practice (Collin & Smith, 2021; Sims et al., 2021, 2025).

This is not a checklist. It is a theory of teacher learning to guide design, implementation and evaluation.

6.1 Goals: professional learning needs a clear focus

Professional learning should begin with a clear focus for improvement. Not a vague theme, not a fashionable initiative, not “something on feedback” or “something on questioning”, but a meaningful goal that helps teachers know what they are trying to get better at and why it matters.

The goal should be connected to pupil learning, but close enough to teacher practice to be actionable. “Improve outcomes” is important, but too broad to guide learning. “Use questioning more effectively” is better, but still broad. “Ask questions that reveal pupils’ thinking before moving on” is better still. It gives teachers something to notice, try, discuss, practise and refine.

Good goals also protect professional learning from becoming deficit-based. The aim is not to identify who is failing and fix them. The aim is to give all teachers a worthwhile direction for growth. A strong professional learning culture says: you may already be doing good work, and there is still something worth getting better at.

That is the spirit of **always proud, never satisfied**.

6.2 Understanding: teachers need to know why, when and how

Professional learning should build understanding, not just compliance with techniques (Kennedy, 2016).

Teachers need to understand why an approach might work, when it is likely to be useful, when it may be less appropriate, and how it connects to pupil learning. Without that understanding, even good techniques can become brittle. They may be copied superficially, used in the wrong conditions, abandoned too quickly, or turned into rituals that look right but no longer serve their purpose.

This is why professional learning needs more than “tips and tricks”. A technique is powerful when it is connected to a principle. Cold calling, for example, is not valuable because the teacher selects a pupil who did not volunteer. It is valuable when it increases participation, accountability, attention and thinking, while preserving psychological safety. Without that understanding, the technique can easily become performative or punitive.

The same is true of feedback, modelling, discussion, retrieval practice, explanation, independent practice or any other teaching strategy. Teachers need to understand the underlying purpose. They need to be able to ask: What problem is this trying to solve? What learning process is



it meant to support? What might go wrong? How would I adapt it for my subject, pupils and context?

Professional learning that builds understanding helps teachers make better decisions, not merely follow instructions.

6.3 Skills: teachers need models, rehearsal, feedback and refinement

Understanding matters, but teaching is a practical activity. Knowing what to do is not the same as being able to do it well in the live complexity of a classroom.

This is the knowing-doing gap. A teacher may understand that explanations should be clear, examples should be carefully chosen, questions should reveal thinking, and feedback should move learning forward. But each of those things depends on skilled enactment. Good explanations, questions and feedback are not abstractions. They are things teachers have to do, in real time, with real pupils, under pressure.

So professional learning needs to include opportunities to develop skill. That usually means:

- seeing strong models and non-examples;
- breaking complex practices into smaller components;
- rehearsing specific moves in lower-stakes conditions;
- trying them in classrooms;
- receiving feedback;
- refining the approach;
- trying again.

Teaching is not violin practice, chess or surgery. Goals are more complex, feedback is noisier, and the environment is less controlled. But the broad lesson from research on expertise still matters: expertise is unlikely to develop without focused goals, structured practice, feedback, refinement and increasing authenticity (Deans for Impact, 2016; Ericsson, 2008; Ericsson & Pool, 2016; Ericsson et al., 1993; Hill et al., 2022; Korthagen, 2017).

This is one of the reasons one-off sessions so often disappoint. They may introduce an idea, but they rarely provide enough support for teachers to develop skill. Professional learning that builds expertise has to move beyond explanation into enactment.



6.4 Habits: new practice needs to become fluent and durable

Even when teachers understand an approach and can enact it in supported conditions, the work is not finished. New practice needs to become fluent, durable and automatic.

Classrooms are busy places. Teachers make many decisions at once. If a new practice requires too much conscious effort, it is unlikely to survive the pressure of real teaching for long. It may appear during the professional learning cycle, especially when attention is high, but fade once the next priority arrives.

That is why professional learning must support habit formation. The aim is not simply that teachers can do something well once. The aim is that they can do it reliably, under realistic conditions, without needing their attention. Over time, effective practice should become part of a teacher's professional repertoire: available, flexible and ready to use.

This does not mean mindless routine. Habits in expert practice are not rigid scripts. They free up attention. When some aspects of practice become fluent, teachers have more capacity to notice pupils' thinking, adapt to the moment and make better judgements.

6.5 Feedback: teachers need better evidence about practice

Teachers cannot improve what they cannot see.

The impact of teaching is largely hidden from the person doing it. A teacher may not know how clear an explanation was to pupils, how much thinking a task generated, how equitably discussion was distributed, how pupils experienced the classroom environment, or whether feedback was understood and used. Professional judgement matters, but unaided judgement is not enough.

High-quality professional learning therefore needs good feedback. That feedback can come from different sources: student surveys, peer observation, video, coaching conversations, pupil work, assessment evidence, artefacts of planning and teaching, or structured self-reflection. No single source is perfect. Each has limitations. But together these tools can help teachers see their practice more clearly.

Feedback should not be used merely to rate or judge. Used badly, feedback can narrow practice, create defensiveness and reinforce a deficit mindset. Used well, it helps teachers compare current practice with intended practice, identify where learning is needed, and decide what to try next.

The best feedback does not simply say, "You are here." It helps answer, "What should I work on next, and how will I know whether I am getting better?"

6.6 Collaboration: professional learning is social, but not automatically effective

Professional learning is often better when teachers work together. Collaboration can help teachers share interpretations, test ideas, look at evidence, practise together, challenge assumptions and sustain motivation. It can also make improvement feel less lonely and less judgemental (Ronfeldt, 2017; Ronfeldt et al., 2015; Jackson & Bruegmann, 2009).

But collaboration is not automatically powerful. A meeting is not a professional learning community simply because teachers are in the same room. Discussion does not necessarily build expertise. Sharing practice can mean sharing weak practice. Without focus, evidence, challenge and connection to classroom enactment, collaboration can become pleasant but unproductive. Without high levels of trust, it may be neither (Bryk & Schneider, 2002; Tschannen-Moran & Hoy, 2000).

High-quality collaboration has a clear purpose. It is organised around problems of practice. It uses evidence. It connects theory with classroom reality. It creates opportunities to examine examples, plan, rehearse, observe, reflect and refine. It makes practice discussable. Professional learning should therefore not ask merely, "Are teachers collaborating?" It should ask, "Is collaboration helping teachers build expertise?"

6.7 Adaptive expertise: tight principles, intelligent adaptation

Professional learning must avoid two opposite mistakes.

The first is prescription without judgement: telling teachers exactly what to do, regardless of context, and mistaking compliance for expertise. The second is inspiration without guidance: offering broad principles or interesting ideas, but leaving teachers to work out almost everything for themselves.

Neither is good enough.

Teacher expertise requires judgement. Professional learning cannot be rote learning, giving teachers a script and requiring compliance. Teachers need to understand the principles well enough to adapt them intelligently. That means professional learning should be tight about the purpose and theory of action, but flexible about

enactment. Teachers should know what must not be lost, and where adaptation is not only allowed but necessary.

This is especially important when schools and colleges use broad categories such as coaching, lesson study, professional learning communities, instructional rounds or evidence-informed practice. Categories are too broad to guarantee quality. The question is not whether "coaching works" or "lesson study works". The question is: what is the theory of action, what are the active ingredients, how well are they enacted, and how do we know whether they are building expertise?

Professional learning that builds expertise helps teachers understand the underlying principles, see varied examples and non-examples, practise in increasingly authentic conditions, receive feedback, and learn how to adapt without diluting the purpose.

That is what makes professional learning powerful: not fidelity to surface features, but fidelity to the mechanism by which improvement is supposed to happen.

6.8 A useful summary

Weak professional learning	Stronger professional learning
One-off input	Sustained sequence
Generic topic	Connected to teachers' real work
Attendance as success	Teacher learning as success
Inspiration only	Better decisions and practice
Tips and tricks	Principles, models, rehearsal and feedback
Collaboration as meeting	Collaboration as shared work on practice
Implementation as compliance	Implementation as intelligent adaptation
Evaluation by satisfaction	Evaluation by changes in expertise and practice

High-quality professional learning is not just better CPD. It is a different conception of how teacher expertise grows.

The next question is whether we are serious enough to evaluate it.

7. How to evaluate professional learning

If professional learning is to become the core work of school and college improvement, we have to get much better at evaluating it.

That is easier to say than to do. Evaluation is hard. Evaluating professional learning may be particularly hard, because the effects we care about are often indirect, delayed, cumulative and shaped by context. A professional learning programme may influence what teachers notice, understand, value, decide and do; those changes may then influence classroom interactions; those interactions may then influence student learning, motivation, confidence, behaviour or belonging. The chain is long, and every link is imperfect.

Evaluation is also risky. It may tell us that something we care about, have invested in, or have publicly championed is not working as well as we hoped. That is uncomfortable. It is one reason why evaluation often becomes an afterthought: a survey at the end of a session, a record of attendance, a few positive comments, perhaps a slide in a report.

But if professional learning is itself a form of learning, then evaluation is not an optional extra. It is how professional learning learns.



7.1 The problem with poor proxies

Much evaluation of professional learning relies on things that are easy to collect and likely to look positive. These may include whether participants attended, whether they enjoyed the session, whether they felt inspired, whether they said they intended to change their practice, whether they completed the course, whether they logged a coaching conversation, or whether they reported increased confidence.

None of these things is worthless. Attendance matters. Engagement matters. Motivation matters. Confidence may matter. But they are poor proxies for impact.

A professional learning programme could score well on all of them and still make little sustained difference to what happens in classrooms. Teachers might enjoy a session without learning anything new. They might feel inspired but not change practice. They might intend to change but lack the models, feedback, time or conditions needed to do so. They might report increased confidence even when their practice has not improved. They might complete every activity in a programme without developing the expertise the programme was meant to build.

The danger is not just that poor proxies give us incomplete evidence. It is that they can give us falsely reassuring evidence. They can make weak professional learning look successful. They can over-weight the story with optimism and under-weight it with useful information.

If we do not evaluate professional learning properly, we cannot improve it properly.

7.2 Better evaluation starts with a theory of change

Better evaluation begins by making the theory of change explicit.

A theory of change is a set of claims about how the professional learning is supposed to work. It should say what teachers are expected to learn, how the programme will help them learn it, what changes in thinking or practice should follow, what conditions are needed for those changes to be sustained, and how those changes are expected to benefit students (Center for Theory of Change, n.d.; De Silva et al., 2014; Weiss, 1995; Wolpert et al., 2016). A theory of change is not a diagram produced for a funding application and then forgotten.

In simple terms, it asks: If we do these things, with these people, in these conditions, why should we expect these outcomes?

This matters because without a theory of change, evaluation has nothing sensible to test. We can count activities, but we cannot know whether they are the right activities. We can ask whether teachers enjoyed the programme, but not whether the programme changed the things it was supposed to change. We can look at outcomes, but not understand why they did or did not improve.

A good theory of change also helps avoid the trap of evaluating only what is easy. If the programme claims to build teachers' ability to check for understanding, evaluation should look for changes in teachers' understanding of checking for understanding, changes in classroom questioning and task design, changes in how teachers respond to evidence of pupil thinking, and plausible changes in pupils' learning. If the programme claims to improve classroom climate, evaluation should look for changes in teacher-student interactions, student perceptions, routines, expectations and participation.

The theory of change tells us where to look.

7.3 What better evidence looks like

Most schools and colleges will not be able to prove the causal impact of professional learning on student outcomes in any simple way. That should not be an excuse for weak evaluation. The choice is not between perfect proof and no evidence.

Schools and colleges can gather better evidence by looking across the chain of impact.

Evaluation question	Evidence to look for
Is there a clear theory of change?	A written account of how the professional learning is expected to build expertise, change practice and benefit students.
Is the design aligned with evidence?	Evidence that the programme includes a clear focus, strong models, opportunities for practice, feedback, collaboration and support for sustained change.
Is the programme being enacted well?	Evidence about quality of facilitation, engagement, coherence, sequencing, responsiveness and fit with school context.
Are teachers learning?	Evidence of changes in teachers' knowledge, understanding, beliefs, motivation, confidence, attention, language or decision-making.
Is practice changing?	Evidence from video, observation, peer feedback, student surveys, artefacts, planning, student work, classroom routines or teacher reflection.
Are changes sustained?	Repeated evidence over time, not just immediately after a session or during a high-attention implementation period.
Are students benefiting?	Plausible evidence of change, from student work, assessments, surveys, participation, behaviour, attendance, confidence or other relevant outcomes.
Can we attribute impact?	Stronger designs where feasible: comparison groups, baseline measures, repeated measures, matched groups, or other approaches that reduce alternative explanations.

This kind of evaluation does not pretend to be perfect. It does something more useful. It builds a richer picture of whether professional learning is working, where the chain is strong, where it is weak, and what needs to improve.



7.4 Evaluation should improve professional learning, not merely judge it

Evaluation is often associated with accountability: proving that something worked, defending a decision, satisfying governors, reporting to trustees, or justifying expenditure. Those uses matter. But if evaluation is only about judgement, people may hide weakness, avoid hard questions, or select evidence that confirms what they already want to believe.

The more important purpose of evaluation is improvement. A school or college that evaluates professional learning well should be able to say not only, “Did this work?” but:

- What did teachers actually learn?
- Which parts of the programme seemed most useful?
- Where did the design fail to support change?
- Which teachers or teams benefited most, and why?
- What conditions made change easier or harder?
- What needs to be adapted next time?
- What evidence would we need to be more confident?

That kind of evaluation creates a feedback loop. Professional learning becomes less like a fixed intervention delivered to teachers and more like a learning system that gets better over time.

7.5 Evaluation and professional trust

Some people worry that evaluating professional learning will make it feel performative, punitive or managerial. That is a real risk if evaluation is handled badly. If evidence is used mainly to rank, judge, expose or blame, it will undermine the trust needed for professional learning.

But the answer is not to avoid evaluation. The answer is to evaluate in ways that are consistent with an improvement mindset.

Evaluation should not say, “Who is not good enough?” It should ask, “What are we learning about how expertise grows here?” It should not reduce teachers to scores. It should help teachers and leaders see more clearly. It should protect agency, not remove it. It should make professional learning more intelligent, not more bureaucratic.

Used well, evaluation is an act of respect. It says that teachers’ time matters too much to waste on professional learning that does not work. It says that good intentions are not enough. It says that if we ask teachers to keep learning, we have a responsibility to keep learning about how best to support them.

The aim is not perfect proof. The aim is better evidence, better decisions and better professional learning.



8. The Professional Learning Promise

If the professional learning revolution is to become more than an argument, it needs to become a commitment.

The Professional Learning Promise is a public commitment to take teachers' learning seriously. It is not a badge for perfection. It is not a claim that a school, college or trust has already solved professional learning. It is a promise of direction: a statement that building expertise will be treated as core improvement work, not as an optional extra.

Teachers, schools, colleges and trusts that make the Professional Learning Promise commit to four things. These are the same as the three changes listed above, but we believe that issues of prioritisation and time are so important (and distinct) that we have split them into two separate commitments.

8.1 Strategic commitment

We will make building expertise our central long-term strategy for improving outcomes and promoting equity. This means treating professional learning as a core part of school and college improvement, not as an activity that sits alongside it. It means interrogating every priority, initiative or intervention: how will this build expertise, improve classroom interactions, or create the conditions in which those things can happen?

It also means resisting the deficit mindset. Professional learning is not just for teachers who are struggling. It is for everyone. Improvement is a professional norm, not a remedial intervention.

The spirit is: Always proud, never satisfied.

8.2 Time commitment

We will protect regular time for professional learning.

This does not mean pretending that time is easy to find. It is not. Schools and colleges are busy, budgets are tight, staffing pressures are real, and staff workload matters. The Promise is not a denial of constraint. It is a commitment to make the best possible choices within constraint. If professional learning is important, it cannot depend on leftover time.

Protecting time may require difficult choices. Some existing meetings may need to be repurposed. Some routines may need to be simplified. Some good things may need to stop so that better things can happen. The commitment should not add more work, but make room for the work most likely to build expertise.

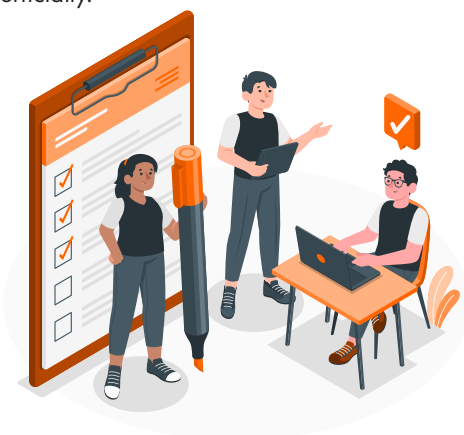
The long-term aspiration should be that every teacher has regular, protected time for high-quality professional learning as part of their professional work.

8.3 Design commitment

We will design professional learning around how teachers learn and develop expertise.

This means moving beyond one-off input, generic sessions and activity as evidence of success. Professional learning should have clear goals, build understanding, develop practical skill, support habit formation, provide useful feedback, and connect closely to teachers' real work.

It should be coherent enough to matter and flexible enough to fit context. It should be tight about the theory of action and loose about local enactment. It should help teachers understand the why, the what and the how, so that they can adapt intelligently rather than comply superficially.



8.4 Evaluation commitment

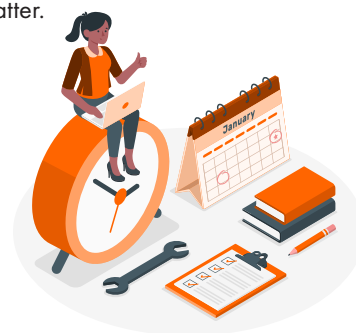
We will evaluate whether professional learning is changing expertise and practice.

This means moving beyond poor proxies such as attendance, satisfaction and inspiration. These may be useful first signs, but they are not enough.

Schools, colleges and trusts supporting the Professional Learning Promise commit to asking better questions. Are teachers learning? Is practice changing? Are changes sustained? Is there plausible evidence that students are benefiting? What does the evidence tell us about how the professional learning itself needs to improve?

The aim is not perfect proof. It is disciplined curiosity.

Professional learning should be evaluated not because we distrust teachers, but because we respect their time and want the work to matter.



8.5 A promise, not a performance

The Professional Learning Promise should not become another performative exercise. It should not encourage schools and colleges to produce glossy claims while hiding uncertainty. It should not become a compliance badge.

It is a commitment to direction.
If you want to make this
commitment, click here.



Anyone can support the Promise. The Promise says: we, as a community of education professionals, are taking this seriously; we are willing to examine our current practice; we will protect time; we will design better; we will evaluate more honestly; and we will keep improving.

That is what a professional learning revolution looks like in practice.

9. What EBE will do



At Evidence Based Education, we do not think the argument in this paper should remain an argument. If professional learning is to become more central, more evidence-informed and more carefully evaluated, schools, colleges and trusts will need practical tools to help them do that work.

So, as part of our commitment to this professional learning revolution, we will work with schools, colleges, trusts and colleagues across the sector to develop, test and refine practical tools that make the work easier to do well.

These tools are not presented here as finished answers. They are part of our commitment to the next stage of the work. They should reflect the principles argued for in this paper: clear theory of change, thoughtful design, intelligent adaptation, and evaluation that helps us learn.

We cannot build these tools without collaborating with teachers and leaders.

If you want to help with this, and to be an early adopter, please register your interest [here](#).



9.1 A Professional Learning Audit

We will develop a Professional Learning Audit to help schools, colleges and trusts examine how well their current professional learning offer aligns with the best available evidence about how teachers learn and develop expertise.

The purpose is not to judge schools or colleges. It is to help them see their current provision more clearly. The audit should help leaders and teachers identify strengths, gaps and priorities for improvement.

It might ask, for example:

- Is professional learning connected to a clear theory of change?
- Is it focused on building teacher expertise?
- Is time protected?
- Are teachers working on meaningful goals?
- Does professional learning build understanding as well as practical skill?
- Are there opportunities for modelling, rehearsal, feedback and refinement?
- Is collaboration purposeful?
- Are changes in practice being examined?
- Is the professional learning itself being evaluated and improved?

The audit should not produce a simplistic score that pretends to capture everything. It should support better professional conversation and better decision-making.

9.2 A Professional Learning Evaluation Tool

We will also develop a Professional Learning Evaluation Tool to help schools, colleges and trusts gather better evidence about whether professional learning is changing teacher expertise, classroom practice and, where feasible, student outcomes.

This tool will not offer a simplistic claim to “prove impact”. Evaluation in schools and colleges is rarely that straightforward. But it should help leaders and teachers move beyond poor proxies such as attendance, satisfaction and inspiration.

It should help them understand whether, where and how the time they spend on professional learning is leading to improved outcomes, and how they can get even more “bang for their buck”. The tool will support evaluation as learning, not evaluation as performance.



9.3 The Great Teaching Toolkit

We will also continue to develop the Great Teaching Toolkit as a practical platform for professional learning. The Toolkit already includes resources designed to help teachers understand the evidence about great teaching, reflect on their practice, gather feedback, work in teams, and engage in development cycles.

But the professional learning revolution is bigger than any one platform. Whether or not a school or college uses the Great Teaching Toolkit, we want to help make this work practical. We want to contribute tools, evidence, language and support that help schools and colleges take teachers' learning seriously.

That means continuing to develop:

- evidence-informed resources linked to the Model for Great Teaching;
- feedback tools that help teachers see their practice more clearly;
- support for Great Teaching Teams;
- development cycles that connect understanding, practice and reflection;
- practical techniques and models of classroom practice;
- tools that help leaders evaluate and improve professional learning.

We will test these ideas with schools, colleges and trusts, learn from what works and what does not, and refine the tools in response.

9.4 A sector contribution

This work should not be a closed club. The professional learning revolution will not be built by one organisation. It will require schools, colleges, trusts, teachers, leaders, researchers, professional bodies, policymakers and providers to think differently about how expertise grows.

Our contribution is to help make the argument practical.

We will develop tools. We will test them. We will refine them. We will share what we learn. And we will invite others to challenge, improve and build on the work.

If professional learning is to become more evidence-informed, more humane and more effective, then the tools that support it must themselves be open to learning.





10. Join the revolution

This paper has argued for a simple but demanding change in how we think about school and college improvement. For many, that change can begin by making the PL Promise.

A profession built around learning should be much more serious about the learning of its own professionals. Teachers do improve with experience, but experience alone is not a professional learning strategy. If we want better learning for young people, we need to build the expertise of the adults who teach them: deliberately, cumulatively and well.

That is why professional learning is one of our strongest routes to sustainable improvement. Expertise, once developed, keeps working. It can travel with teachers into future lessons, classes and years of their career. It shapes the quality of classroom interactions. It helps teachers make better decisions. It makes future improvement more likely.

The revolution is not more INSET, more initiatives, more compliance or more work. It is a change in what we treat as normal.

Normal should be that teachers are treated as learners too.

Normal should be that professional learning is protected from the urgent but less important.

Normal should be that expertise is built deliberately, not left to chance.

Normal should be that professional learning is designed with care, enacted with skill and evaluated with honesty.

Normal should be that improvement is for everyone.

Normal should be **always proud, never satisfied**.

This is not a call for teachers to work harder. It is a call for the sector to take their learning seriously enough to make improvement possible. If we believe young people can learn more, we must believe the adults who teach them can learn more too. And if we believe that, we must create the conditions for this to become normal.

For the sake of the young people whose futures we shape, and for the sake of the teachers whose work shapes them, we need a revolution in professional learning.

Please join us.



Appendix: Technical evidence and further detail

This appendix provides further evidence and technical detail for readers who want to scrutinise the claims made in the main paper. The main paper summarises the argument; this appendix preserves more of the evidential basis.

The appendix is not intended to be exhaustive. It sets out the main bodies of evidence that support the paper's argument and highlights important caveats.

Existing CPD

All teachers in England, and elsewhere, already take part in significant amounts of continuing professional development (CPD). Estimates of how much time is given to teacher CPD vary, partly because of the difficulty of defining which activities should count. For example, OECD TALIS surveys estimate that England's primary teachers spend, on average, 55 hours a year on professional development, while for secondary teachers it is 43 hours a year. Both are below the OECD average of 62 hours a year, and well below jurisdictions like Singapore at 100 hours (Van den Brande & Zuccollo, 2021). On the other hand, DfE surveys (Adams et al., 2023) report an average of just 21-30 hours per year spent on 'formal CPD activities'. A study that aimed to provide teachers with an entitlement to 35 hours of high-quality CPD annually (Leonardi et al., 2022) reported that at baseline 35% of teachers reported undertaking 35 hours of CPD, rising to 62% after three years of the project. In addition to the 35 hours, to be classed as 'high-quality' the CPD had to meet the needs of individual teachers, be predominantly focused on subject-specific development and be aligned with the DfE Standard for Teacher PD (DfE, 2016). At baseline, 11% of participating teachers met all the criteria, rising to 28% by year 3. This suggests that the issue is not just the number of hours but also the quality. Even so, 35 hours a year is less than one hour a week on average, or 2% of a typical teacher's 50-hour working week (Adams et al., 2023).

There have been other attempts to define the quality of CPD. Chedzey et al. (2021) piloted a CPD quality assurance system, based on the DfE Standard, though their process is based on CPD that is commissioned from external providers. Moreover, the 2016 DfE Standard does not reflect some of the findings of research on CPD impact over the last ten years (e.g., Sims et al., 2025).

Various surveys of teachers paint a picture of dissatisfaction and low expectations from teachers with their current experience of CPD. For example, Allen et al. (2024) report that "fewer than two-thirds of teachers said that INSET days at the start of the school year involved professional development in any form". "Six in ten classroom teachers did not find the last INSET day they attended particularly useful", and "only one in five [teachers] believe a lack of access to training would have a significantly negative impact on them", while "only just over one in ten teachers 'strongly' agree that they have taken part in professional development activities that have helped them become better teachers over the last twelve months", and "only 4% of teachers believe that training on behaviour would result in significant improvements to their expertise in the area". Teachers also cite a number of barriers to undertaking CPD, including workload, availability of cover, costs of CPD and lack of support to do it (Ofsted, 2024).

A summary of the current state of CPD in English schools would be that, although most teachers would really like to do more of it, various barriers prevent this, leading to fewer hours being spent on CPD than in many other countries. When it is done, the quality is mixed and teachers' views of it are rather negative overall. Certainly, there is little confidence that CPD can make a significant difference to either teachers' practice or students' outcomes.

Limitations of existing school improvement approaches

Much of the advice given to schools about improvement comes in the form of paid-for, often individualised, services, so it is hard to get a reliable overview. Anecdotally, though, it seems common to advise starting with a full self-evaluation process to identify strengths and weaknesses, identifying targets, allocating roles and structures to take responsibility for these targets, supported by continued monitoring and evaluation. In England, targets and improvement plans are often structured around Ofsted judgement areas. The thinking is often ‘means-end’ — identifying a desirable end state and trying to work backwards with a set of actions to deliver it. The result is typically a set of interventions that must be implemented to achieve the identified goals.

One problem with this kind of approach is that these interventions generally have quite small effects (Lortie-Forgues & Inglis, 2019). Moreover, even the best evaluations that provide the evidence for those effects have large margins of estimation error, leading to ‘promising trials bias’ (Sims et al., 2023), since many programmes identified as ‘promising’ are false positives: selecting those positive results gives an inflated picture of which programmes were effective and the size of their effects. Even worse, when we move from their use in a research study to real life we find that problems of implementation typically lead to a reduction in effect size with scale (Cheung & Slavin, 2016; Kraft et al., 2026; Slavin & Smith, 2009) and that intervention effects fade out over time if not supported by routine high-quality teaching (Abenavoli, 2019; Bailey et al., 2020; Jacob et al., 2010; Watts et al., 2019, 2025). Hence, even the small effects we find in trials are unlikely to be replicated at scale or to outlive the life of the trial.

Another issue is that the self-evaluation diagnostic process can promote a ‘deficit mindset’. School leaders are advised to do a diagnostic assessment of their school’s strengths and weaknesses, identify areas of underperformance and focus on them. Sometimes, they may be told to avoid the word ‘weaknesses’ and instead talk about ‘areas for improvement’, but this substitution reinforces the notion that improvement is just for those who are not doing well. Similarly, performance management systems seek to identify weaknesses and provide support to address them. By positioning improvement as something for people who are not doing well, this deficit mindset creates incentives to appear just good enough to avoid the need for improvement. No one needs to be excellent, just don’t be too terrible. Inevitably, the metrics that are used to identify those below this threshold are imperfect and lead to unfairness and gaming. The focus shifts from how well you are really doing to whether your score on the accountability measure gets you off the hook for ‘improvement’.

This deficit mindset may be part of the reason why professional development is not a high priority for many schools and teachers. If development is associated with being inadequate, it is hardly surprising it is not embraced. If being good enough is the goal, most teachers are there already — they have no need for professional development.

Evidence about the impact of CPD

In recent years there has been a significant growth in the number of studies evaluating the impact of different kinds of continuing professional development (CPD) for teachers, providing evidence that has been summarised in a number of high-quality reviews (for example, Cordingley et al., 2015; Darling-Hammond et al., 2017; Desimone, 2009; Kennedy, 2016; Kraft et al., 2018; Lynch et al., 2019; Timperley et al., 2007; Yoon et al., 2007). However, the most authoritative, most strongly theoretically grounded, and most helpful for designers of CPD is the systematic review conducted by Sims et al. (2025) for the Education Endowment Foundation, and summarised in an EEF Guidance Report (Collin & Smith, 2021).¹

Sims et al. (2025) focus on the mechanisms by which teacher CPD leads to student learning, identifying the need for PD to include mechanisms that address four types of purposes: Insights, Motivation, Techniques and Practice (IMTP). They set out to test two hypotheses empirically: firstly, that the more mechanisms in a CPD programme, the more effective it is, and secondly, that balanced PD designs (i.e., CPD that includes at least one mechanism from each purpose) are more effective. Both receive 'qualified support' from the available studies. Each additional mechanism (of the 14 they considered) adds 0.01 standard deviations to the estimate of impact on student learning outcomes (although this relationship disappears when restricted to the methodologically strongest studies). Only nine (of 104) CPD programmes had a balanced design, but the average effect for those was 0.15, compared with 0.05 for imbalanced. However, given the number of studies, the difference was not statistically significant. A further important finding of this review (reported in Sims et al., 2021, but not in the 2025 paper) is that the form of the CPD, for example, instructional coaching, lesson study or professional learning communities, is not associated with any differences in impact: any form of PD that contains the key active ingredients can work.

Across all 104 programmes, the average effect size of CPD on student attainment was found to be 0.05. This overall average is a little lower than averages from other reviews, for example, 0.54 from Yoon et al. (2007), 0.21 (in mathematics) and 0.05 (in science) from Blank and de las Alas (2009), 0.10 from Kennedy (2016), 0.23 (in literacy) from Basma and Savage (2018), 0.18 (for coaching interventions) from Kraft et al. (2018), 0.21 (in STEM subjects) from Lynch et al. (2019) and 0.09 from Fletcher-Wood and Zuccollo (2020). If we focus on Sims et al.'s (2025) estimate for what their theory suggests is high-quality CPD (i.e., with plenty of mechanisms, and balanced), it is around 0.15.

There is also evidence that high-quality CPD promotes teacher wellbeing and retention (Fletcher-Wood & Zuccollo, 2020; McJames et al., 2023; Smet, 2021). For example, Worth et al. (2026) found that an increase in teachers' perceptions that their CPD had had a positive impact on their practice was associated with a lower chance of leaving. They estimate that if spending anything less than £1,260 per teacher per year could increase that teacher's rating of CPD impact by just one point on a ten-point scale, it would be more cost-effective than spending that money on a pay increase, if the aim is purely to improve retention.

¹ The original Sims et al. review was published by EEF in 2021, but the later peer-reviewed 2025 version is probably the definitive account.

It is also the case that every teacher who leaves carries a direct cost to schools, and to the system more widely. Allen et al. (2016) estimate the cost of training a new teacher at £23,000 (2016 prices), a cost that is effectively borne by the system every time an additional teacher has to be replaced. The US-based Learning Policy Institute (LPI) provides a tool that estimates the cost of recruiting one teacher, including transition supply cover, administration, advertising, recruitment, training and induction, to be between \$12,000 and \$25,000.² In the context of England, most of this cost would be borne by either schools, Multi-Academy Trusts or Local Authorities. Some have claimed that the 'finder's fees' incurred when an agency supply teacher is offered a permanent contract can be as high as £10,000.³ In areas of teacher shortage, costs will be higher, when greater transitional supply cover, repeated advertising and financial incentives are taken into account. A further cost that is harder to quantify is the loss of productivity arising from teacher turnover (Ronfeldt et al., 2013; Sorensen & Ladd, 2020; Synar & Maiden, 2012). Teacher turnover hits both student outcomes and the functioning and wellbeing of remaining colleagues, and the effects last some considerable time. For schools at the top end of the LPI cost estimate, investing in a CPD programme that increased teachers' perceptions of its impact by two points on the ten-point scale could actually save them £87 per teacher per year in direct turnover costs.

An acknowledged limitation of Sims et al.'s (2025) review is that they ignore the content of any of the PD programmes. If it is important that PD should address Insights and Techniques, for example, it must surely matter what kinds: insights about what? Which techniques? Sims et al. (2025) also acknowledge that there are likely to be other mechanisms than the 14 they identified: the 14 should not be seen as a comprehensive checklist of sufficient conditions for PD to be effective. If we are trying to judge whether a PD programme is likely to be effective, we should be less interested in counting off the mechanisms than in assessing how well each mechanism is delivered and whether it helps to achieve the purpose it is intended to support — things that were typically not reported in the studies Sims et al. (2025) were able to review. Number of mechanisms and balanced design are just the best available proxies for the extent to which a PD programme achieves the four purposes.

Taken together, the evidence suggests that the impact of teacher PL programmes on student outcomes is likely to be in the region of 0.05–0.15 SD, but the size of the impact is quite sensitive to the quality of the PL design and delivery.

² <https://learningpolicyinstitute.org/product/2024-whats-cost-teacher-turnover>

³ <https://www.tes.com/jobs/careers-advice/recruitment/what-impact-are-finders-fees-having-teacher-recruitment>

Evidence about the impact of CPD

Teacher expertise is the key driver of student learning. There is abundant evidence that, of all the things schools can influence, “what teachers know, do, and care about” (Hattie, 2003, p.2) has the biggest impact on student outcomes, by some margin, and that individual teachers differ in their effectiveness (e.g., Chetty et al., 2014; Rivkin et al., 2005; Rockoff, 2004). Moreover, effective teaching narrows the attainment gap, increasing equity (Burgess et al., 2022; Slater et al., 2012). High-quality teaching is not a fixed or given quantity: it varies widely across classrooms and can be learnt, supported and nurtured (Coe et al., 2020).

Saying that teacher expertise is the driver of adaptive classroom interactions is meaningless unless we define what we mean by expertise. Teacher expertise depends on a combination of theoretical understanding and practical skills (Alicia et al., 2024).

The need for understanding is supported by the work of Kennedy (2016), who found that professional development interventions that aimed at the middle ground between tight ‘prescription’ and a purely theoretical ‘body of knowledge’, by linking broader strategies and insights, were most effective. Here ‘strategies’ are goal-oriented, with a clear rationale, and “provide a collection of illustrative practices that will achieve that goal”. Insights “recognise the importance of teachers’ in-the-moment decisions and hope to alter those decisions by changing the way teachers interpret classroom situations in the moment and thus, how they respond to them” (Kennedy, 2016, p. 956). If teachers understand the principles that underpin an approach, and have a sound perception of their own classroom, they should be able to adapt it into a form that works for them and their students. To do this, they need to understand and be able to articulate the ‘Why?’, ‘How?’, ‘When?’ and ‘With what?’ of any strategy they use.

In addition, teaching is a practical activity and its effectiveness depends on practical skills. This is sometimes expressed as the ‘knowing-doing gap’: knowing what we should do in theory is not the same as doing it well in practice. A significant body of evidence shows that effective professional learning must explicitly develop both knowing and doing (e.g., Hill et al., 2022; Kennedy, 2016; Korthagen, 2017).

Practical skills can only be learned through practice. But it is important to distinguish between the practice that comes through experience alone and the kinds of practice that are most likely to lead to improvement. Ericsson’s concept of ‘deliberate practice’ (Deans for Impact, 2016; Ericsson, 2008; Ericsson & Pool, 2016; Ericsson et al., 1993) provides a useful guide to what is required, although different formulations (and interpretations) of this idea seem to vary. Our take on deliberate practice, based on this literature, is that it should include the following:

1. Practice should focus on specific learning goals: a clear description of how practice will be improved and how we will know if it has been. Effort should be tightly focused on achieving that specific goal.
2. Goals for professional learning should be challenging: aspirational, stretch goals that people commit to and believe are possible to achieve, but realistically do not expect to achieve fully. Nevertheless, partial success should be celebrated.
3. Complex goals should be broken down into components, each of which should be practised separately (‘decompositions’).
4. Complex skills should be built up gradually, practising first with simplified ‘approximations’ that are less complex and more forgiving (lower-stakes) than a live classroom environment, then increasing the complexity, realism and pressure, and finally recombining the components and context into authentic, whole performance. (This, and the previous, are essentially forms of scaffolding.)

5. At each stage of the practice, there should be feedback to guide and shape, focused on the learning goal. Teachers should have the opportunity to keep trying again in response to feedback, until they have mastered the practice.
6. Opportunities for practice should facilitate overlearning: continuation beyond the point of competence to a level characterised by consistency, fluency and flow. Not just being able to do it well, but being unable to do it less than well.
7. The practice environment should support the development of strong mental models: clear and sound visualisations of what the desired practice looks like and the conditions under which it is most effective. Development of mental models is supported by:
 - a. Sound understanding of the principles underpinning the practice (the 'why, how, when and with what', see above);
 - b. Availability of examples and non-examples of the practice, across a range of quality;
 - c. Feedback that illustrates the gap between current and desired practice and promotes self-assessment;
 - d. Opportunities for reflection and discussion, grounded in – and connecting – practice and theory.

Combining the theory and practice requires judgement. Judgement is at the heart of adaptive expertise — although to be worthy of being called expertise, there isn't really any other kind. Adaptive expertise means being able to apply what you know in new and unfamiliar situations. That depends on two things: practising in a range of different contexts, and being helped to build a bigger picture of the principles that explain what works, when, and why (Barnett & Ceci, 2002). Hence, there are two specific things we need to do to build (adaptive) expertise: generate diverse experience and build a theoretical overview. In order to make a successful adaptation of an approach or technique to a case with new and different characteristics, the teacher needs to be able to interpolate from known cases. That requires that they have a rich experience of familiarity with cases that span the space that includes the new case. In order to interpolate effectively, they need a practical theory that allows them to understand and predict the relationships they have observed between the characteristics of different cases and a range of adaptations to the approach that make it optimal in each case.

A further dimension of teacher expertise relates to the area of pedagogy: the particular goals or practices, as identified in the Model for Great Teaching (Coe et al., 2020). For example, a teacher may have deep expertise in their ability to present ideas and ask good questions, but be less expert in creating a climate of high demand and support. Most teachers will have a profile of expertise that varies according to these elements of great teaching. A final dimension is the specific topic being taught. In a topic that is familiar, has been taught many times and where their subject knowledge is sound, teachers may have a stronger repertoire of questions, examples and explanations, and a better ability to anticipate misconceptions, for example.

All of which can be summarised by saying that teacher expertise is complex, but there is no shortcut. If we want sustainable, authentic and substantial improvement in student outcomes, our best bet, by far, is to increase teacher expertise. This can be slow, sometimes painful, gradual; it accumulates non-linearly and in small steps, like any other kind of learning. But anything else is likely to lead to short-term, high-cost, limited or illusory improvement.

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