



Effective teacher professional development

Executive summary

The Welsh Government plans to respond to the disruption to student learning caused by Coronavirus-related school closures by committing £150 million in 2021/22 via the Renew and Reform programme (Welsh Government, 2021). The success of this approach will be affected by (among other things):

- The design, delivery and uptake of teacher professional development;
- The way that experiences of distance and blended learning are built on and potentially developed going forward; and
- The methods and models of 'catch-up' support provided.

This policy briefing reviews the evidence on teacher professional development. It should be read in conjunction with the other two policy briefings in the series, on professional development, and blended teaching and learning. This briefing shows that:

1. Effective professional development improves student learning.
2. Professional development is more likely to be effective if it adopts forms (such as instructional coaching) and mechanisms (such as goal-setting and action planning) for which promising evidence exists.

3. Professional development can be as effective online as in-person. Online provision offers novel opportunities for coaching and the use of video. It also makes continued professional development possible during periods of lockdown.

Context and need

Recent school closures and disruption are likely to negatively impact student learning, particularly for disadvantaged and vulnerable learners. The Welsh Government's Renew and Reform programme includes a £35.8 million commitment to 'recruit, recover and raise standards' (Welsh Government, 2020; 2021). This plan includes the recruitment of 600 additional teachers and 300 additional teaching assistants who will support vulnerable students and those preparing for public exams. The plan also includes professional development to support new and existing teachers.

While some professional development programmes improve student learning, unsuitable professional development actively hinders teachers by absorbing their time, attention and resources.

Effective professional development will make a crucial contribution to the success of these plans, by:

- Supporting teachers to meet students' needs.
- Preparing newly-recruited teachers to succeed, and increasing the likelihood that they remain in the profession (Ronfeldt and McQueen, 2017).
- Having a lasting impact on teachers' knowledge and skills, improving learning for future cohorts of students.

It is therefore essential that teachers experience high-quality professional development, informed by the best available evidence.

What can the evidence offer?

Effective professional development substantially improves student learning. When a teacher participates in professional development, the average effect on student learning is equivalent to replacing a novice teacher with a teacher with a decade's experience (Fletcher-Wood and Zuccollo, 2020).

However, this is just the average: while some professional development programmes improve student learning, others do not. Unsuitable professional development actively hinders teachers by absorbing their time, attention and resources. Moreover, some professional development programmes cause improvement initially, but these effects disappear in subsequent years.

In part, this is because designing effective professional development is challenging. Professional development only succeeds if it is based on a valid:

- Understanding of how students learn, and how teachers can affect that learning.
- Understanding of how and why teachers change.
- Plan for implementation, which puts this understanding into practice in ways which

reflect teachers' needs and the pressures they face.

This briefing focuses on the evidence around how and why teachers change, and touches on implementation. It does not review the evidence around student learning and effective teaching. However, it should be emphasised that techniques which encourage teachers to change only benefit students when they are used to promote teacher actions which increase student learning. Effective professional development intervention should therefore help teachers to apply the Pedagogical Principles set out in the national approach to professional learning ([NAPL](#)), and should be aligned with best evidence around how students learn, accessibly summarised in [The Science of Learning](#) (Deans for Impact, 2015). Educators consulted during the project suggested that more work needed to be done to focus attention on these principles.

It should also be noted that, while many effective programmes exist, and much good research has been conducted, substantial gaps in the evidence remain. This briefing offers best bets around teacher professional development, based on the evidence available.



What makes effective professional development?

Several research reviews have sought to identify the characteristics of effective professional development. Commonly, reviews suggest characteristics such as being:

- Sustained
- Collaborative

- Subject-specific
- Practice-based
- Involving experts
- Having teacher buy-in (for example, Cordingley et al., 2015).

However, these characteristics are problematic. First, the meaning of each is not always clear (in what way should teachers collaborate, for example?). Second, reviewers have identified characteristics which effective professional development programmes have in common (for example, many programmes ask teachers to collaborate), however this does not mean those characteristics *caused* improvement (Sims and Fletcher-Wood, 2020). Third, some of these characteristics have uncertain results: sustained professional development does not always result in greater impact, for example, and professional development which is not subject specific can have a positive impact. Indeed, some professional development programmes have been designed explicitly around these characteristics, yet have had disappointing results. As the [Professional Standards for Teaching and Leadership](#) in Wales note, effective professional learning can be identified by its impact on teachers and schools – not by a checklist approach.

The evidence suggests that professional development is no less effective online than in person.

These characteristics may play a role, but it is not clear what that role is. This means that designing professional development around these characteristics does not guarantee success.

Rather than seeking characteristics of effective professional development, it may therefore be more useful to identify effective forms and mechanisms (Sims and Fletcher-Wood, 2019).

Terminology

- **Forms** are broad approaches to professional development, such as instructional coaching.
 - **Mechanisms** are specific techniques which support teacher learning and change, such as setting goals.
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Promising forms

Two broad approaches to professional development seem promising:

- **Instructional coaching** offers teachers individual guidance and support to improve. Typically, teachers are observed, they meet with their observer to receive feedback focused around a specific goal, and practise acting on that goal, before trying it in the classroom. The observer returns to see how the change has gone, and to offer further support.

Instructional coaching is distinct from routine observations, as it is more frequent – weekly, or even daily – allowing teachers to improve rapidly. It should also be distinguished from growth coaching, in which teachers set their own goals. Coaching should always be consensual, but in instructional coaching the observer leads in choosing goals, focusing on those which will make the most difference to student learning. Instructional coaching resembles mentoring, but it focuses tightly on helping teachers to teach more effectively.

There is a substantial and robust evidence base demonstrating the value of instructional coaching. A recent meta-analysis (Kraft, Blazar and Hogan, 2018) included 60 experimental trials and found large positive effects on teaching practice and student learning. Although instructional coaching seems promising, it should be noted that most research into its effectiveness has

taken place in the USA, and that the quality of instructional coaching can vary.

- **Professional learning communities**, whereby teachers meet regularly with colleagues to discuss their teaching, review challenges, and identify ways they can improve. Professional learning communities may be more effective if teachers focus on reviewing evidence of student understanding, and identifying how to respond.

While professional learning communities appear promising, the evidence in their favour is substantially weaker than that for instructional coaching. While some existing programmes have proved effective in UK schools (for example, the Embedding Formative Assessment programme; Speckesser et al., 2017) a recent review found limited evidence in favour of this form of professional development (Brown et al., 2020).

An Education Endowment Foundation project is currently reviewing the evidence around promising forms, and will report in the autumn of 2021.

A promising form offers a broad and recognisable approach to professional development. However, knowing that a form can be effective does not provide sufficient guidance to support the design and delivery of effective professional development. Mechanisms offer more detailed guidance.

Promising mechanisms

The mechanisms which encourage teachers to change their practice and ensure teachers understand key ideas introduced through professional development can be identified using research on learning and behaviour change.

The science of learning suggests that teachers are more likely to understand key ideas if:

- Learning focuses on a few crucial ideas, which are introduced in a planned sequence;
- New learning is explained, modelled and linked to existing learning; and
- Learners revisit novel ideas until they recall them.

For a helpful overview of relevant learning principles, see Deans for Impact (2015).

Behavioural science suggests mechanisms which influence people to make lasting changes to their actions. For example, people are more likely to change if they:

	Set specific goals, and plan when and how to act upon them
	Practise and rehearse new actions
	Set prompts and cues to remind themselves to act on their intentions
	Receive feedback on their efforts to change

Mechanisms which influence people to make lasting changes to their actions

For a helpful overview of principles of behaviour change, see Service et al. (2014).

There is substantial evidence that these mechanisms influence people's learning and behaviour in all fields. Their effectiveness in teacher professional development is the subject of a current Education Endowment Foundation review, which will report in the summer. In many cases however, teachers and teacher educators will be familiar with the mechanisms, because mechanisms which promote learning and action

among students also promote learning and action among teachers.

Remote professional development

Continued restrictions on face-to-face interaction mean that much of the professional development teachers receive through Welsh Government's recruit, recover, raise standards plan will be conducted remotely. Remote and blended professional development poses challenges, but also presents opportunities.

The evidence suggests that professional development is no less effective online than in person. For example, a meta-analysis of instructional coaching found no overall difference between the effects of online or in-person provision (Kraft, Blazar and Hogan, 2018). Some highly effective professional development programmes, such as the instructional coaching programme My Teaching Partner, are designed so that teachers seldom or never meet their coaches face to face (Allen et al., 2011).

Small barriers which are unforeseen or discounted by professional development providers can affect teachers' ability and willingness to attend, participate and act on professional development.

In a direct comparison, a study of maths professional development taught the same material, but randomly assigned teachers to online or in-person delivery. Whether teachers received training online or in-person, the impact was the same; the sole difference was that teachers who received online professional development were more enthusiastic about future online learning (Russell et al., 2009).

Online professional development also offers new opportunities as it permits:

- **Flexibility:** teacher educators can spend less time travelling, and can more easily work with teachers at times to suit them; this is particularly important in rural areas where travel can absorb substantial teacher educator time (Nugent et al., 2016);
- **Better use of video:** online professional development allows teachers to watch and review videos at their own pace. In particular, this allows teachers to analyse videos of their own practice and compare them to videos of effective practice (Allen et al., 2011); and
- **Novel opportunities for practice:** teachers seldom get the chance to practise new techniques before trying them in the classroom. This makes change harder. However, a recent study tested the effects of augmented reality coaching: trainee teachers interacted with 'students' depicted on a computer screen and voiced by trained actors. The study found that this rapidly improved trainee teachers' classroom management skills and confidence (Cohen et al., 2020).
- During engagement activities held with educators and middle tier leaders as part of this project, we heard many examples of successful remote professional development. In particular, participants highlighted the attractions of brief, bitesize professional development sessions, taking half an hour or an hour, often after the school day. This brevity, and their accessibility to all, irrespective of location, made sessions convenient and popular. Take-up and attendance were consequently much higher. Additionally, recordings of live sessions allowed teachers who were unable to attend to engage in their own time. Overall, participants were overwhelmingly positive about their experience of remote professional development, and the possibilities it offers in future.

This is not to downplay the challenges of remote professional development. For example, it is harder to build relationships between the facilitator and teachers, and between teachers. Some educators engaged with during this project noted the importance of retaining some in-person elements, and suggested that blended professional development could enable the 'best of both worlds'. Moreover, most teachers and teacher educators have gained substantial experience in remote professional development, which should help them to overcome these challenges. Notably, future professional development in Wales can build on the work of the [regional consortia](#) in developing resources for remote professional development.

Effective implementation

Implementation is the challenge of turning policies and plans into the intended outcomes. Well-implemented programmes have a greater impact (Durlak and DuPre, 2008). While this is unsurprising, small barriers and details which are unforeseen or discounted by professional development providers can affect teachers' ability and willingness to attend, participate and act on professional development. For example, implementation and process evaluations of professional development programmes have identified barriers including:

- Training dates which conflict with school priorities, such as exams and the start and end of the school year;
- Requiring teachers to spend considerable time out of class to attend professional development – which can lead them to withdraw, to prioritise their students; and
- Providing resources which are hard to access online, or which require extensive adaptation or printing before use.

These barriers can be identified and avoided by piloting programmes with small groups, and by gaining early advice from teachers and leaders who will be participating.

A number of implementation issues were highlighted by educators engaged with during

the project, which they and their colleagues had faced. The need for time for professional development was considered particularly important – not just to attend training, but to also reflect. Some also mentioned the need for regular inputs, supporting changes of habit, not just isolated new ideas.

The importance of leadership support was also a common theme. In particular, educators emphasised the risk of overloading teachers, due to the many pressures which teachers and schools are under, especially with the current curricular changes. Many argued for the importance of being selective about what is added to teachers' priorities – and indeed, the need to remove some tasks when adding more. Others mentioned the importance of balancing mandatory training, training in school priorities, and meeting individuals' needs. The need to support informal learning was also highlighted, as was the value of separating development activities from management ones.

Recommendations

Professional development to recruit, recover and raise standards should:

- Be designed to promote effective teaching practices, based on how students learn – as guided by *The Pedagogical Principles set out in the [NAPL](#) Wales*.
- Avoid relying on checklists of characteristics associated with success, such as being sustained or collaborative – *in line with the [professional teaching and leadership standards](#), which advocate critical, self-directed and collaborative improvement and the work and the [Schools as Learning Organisations](#) strategy*.
- Consider offering teachers instructional coaching, and/or supporting them to form [professional learning communities](#)
- Use mechanisms which support teacher learning and change, based on the science of learning and of behaviour.

- Use the opportunities offered by remote professional development to offer individual coaching, practice, and the use of video – *building on the existing [work of the regional consortia](#) in developing effective e-learning resources.*
- Build on the experience of remote professional development, by continuing to offer teachers convenient and accessible professional development, potentially as part of blended programmes.
- Help leaders to manage the range of pressures facing schools and teachers, to allow teachers to prioritise professional development, as part of a sustainable workload.
- Continue to identify and overcome barriers to implementation by piloting and working with teachers.

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