



EARLY CAREER TEACHERS: MENTOR TRAINING

Conference 2 | Workbook



**KEEP
GETTING
BETTER**

Mentor Conference 2 – session aims

To understand:

- > The importance of the second year of the Early Career Teachers Programme
- > The similarities and differences between the first and second year
- > Your role as mentor within the programme in year 2
- > How teachers build more expert mental models
- > How to adapt instructional coaching as early career teachers develop expertise

Today's session

Section 1: Year 2 – introduction.....	3
Section 2: Developing teacher expertise.....	4
Section 3: Adapting the coaching model.....	17
Section 4: Adapting the coaching model – in practice	24
Section 5: Implementation	36
Frequently Asked Questions – Step Selection	43
Bibliography.....	45
Space for additional notes.....	49

Section 1: Year 2 – introduction

The role of the mentor: year 2

- > Absolutely vital – mentor support is what makes the difference
- > Greater flexibility
- > Greater independence for ECTs
- > Mentors will support ECTs in taking greater ownership of their development

Notes:

Mentor year 2 programme journey

Mentor development:

- > Year 2 clinic
- > Coaching for mentors (formerly ‘coaching on coaching’)
- > Mentoring and coaching development area
- > Regular instructional coaching
- > Access to all study materials, model videos and steps

Notes:

Section 2: Developing teacher expertise

Reflection

Think about what you can recall about the concepts of **teacher expertise** and **expertise development** from earlier mentor training and wider experiences.

Notes:

Building expertise over time

Scenario 1	Scenario 2
<p>Anthony has just moved into his second year on the ECT programme. Last year, he taught year 3; this year, he has moved to Year 4 and even has the same class.</p> <p>His mentor, Azalia, notices in early observations that Anthony's explanations of new ideas in mathematics are often long-winded and complex.</p> <p>Azalia is surprised by this – this was a step for improvement last year, and Anthony significantly developed his practice.</p>	<p>Sienna has just moved into her second year on the ECT programme. She is a secondary science teacher. She has new classes, but is teaching the same topics as last year.</p> <p>Her mentor, Chaim, notices that Sienna is using formative assessment tasks in and between lessons, but is not meaningfully using the data collected to move pupils on.</p> <p>Chaim considered this an area of strength for Sienna last year, particularly with a class that she had taught in her ITT year.</p>

Notes:

Expert teacher knowledge

As teachers move from novice to expert, they develop increasingly powerful mental models in the following broad domains:

Path – Knowledge of the pathway towards mastery of a curriculum, including: the concepts and process that pupils need to know at different stages of their journeys; how these are best represented and sequenced (Hattie, 2003; Westerman, 1991); as well as common obstacles to progress (Sadler, 2016).

Pupil – Knowledge of what their pupils know and don't know, what motivates and concerns them, and how these things change over time (Berliner, 2004, Schempp, 2002). The development of pupil knowledge is produced (and limited) by teacher assessment knowledge (Christodoulou, 2017; Wiliam, 2016).

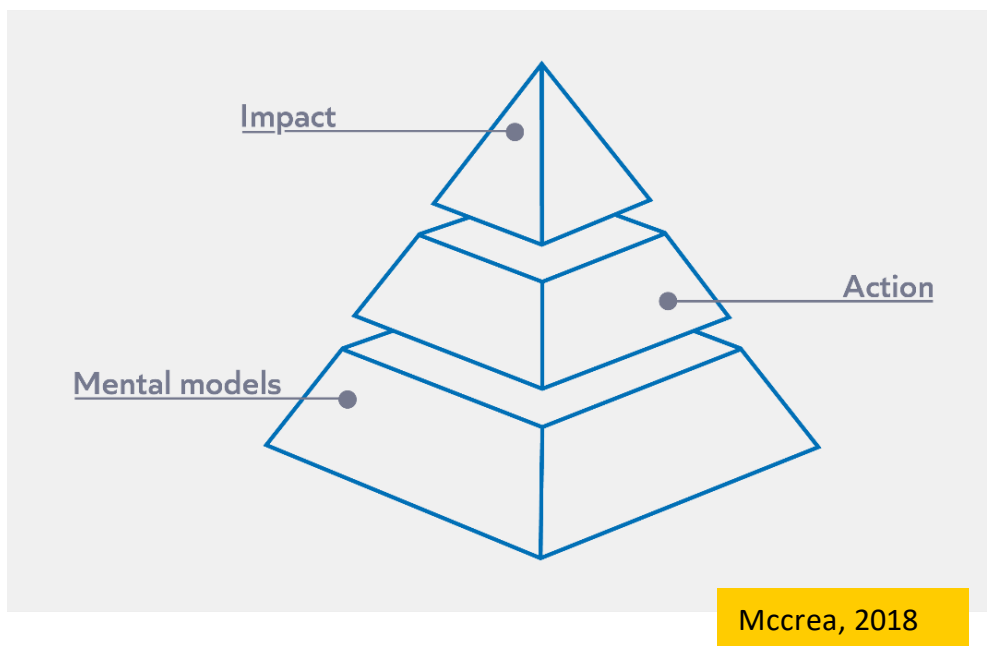
Pedagogy – Knowledge of how learning works and how to catalyse it. This area draws on fields such as cognitive and behavioural science (Deans for Impact, 2015) as well as personal experience, to help teachers build a mental model of the learner (Willingham, 2017b). It encompasses cognitive, emotional, social and cultural dimensions of learning.

Self-Regulation – Knowledge of how to analyse, evaluate and iterate their own knowledge and action towards increasing impact (Ericsson, 2015; Hattie, 2012). This includes an awareness of their own cognitive biases and how to mitigate them.

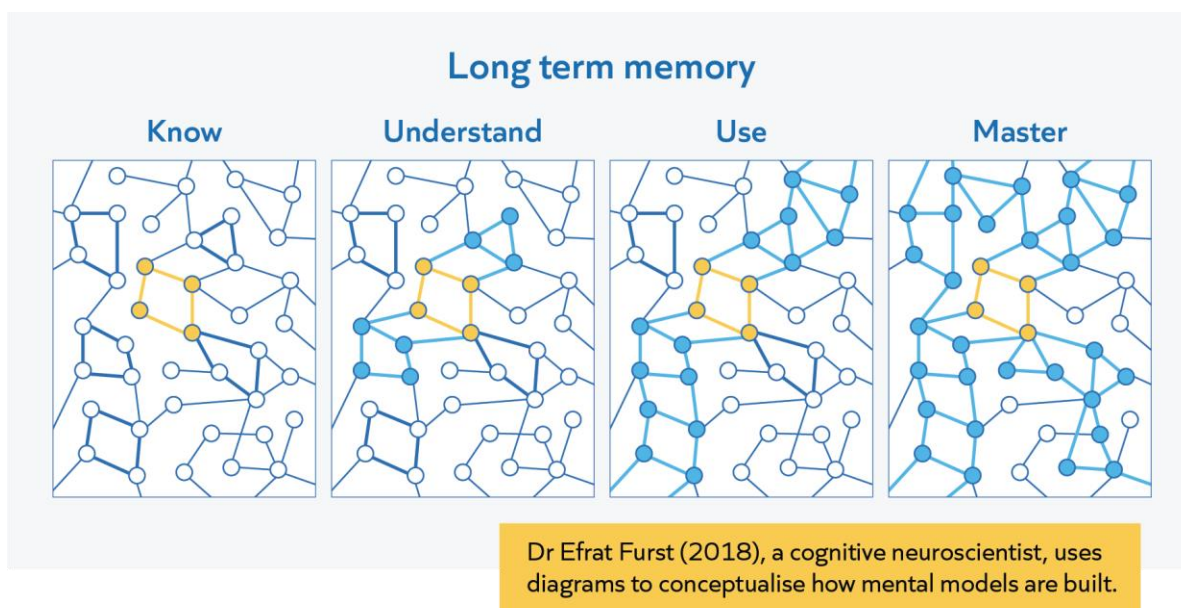
Reduce the power of any of these domains and teacher impact declines accordingly.

(Mccrea, 2018)

What is teacher expertise?



Building mental models



(Adapted from Furst, 2018. Available at: <https://sites.google.com/view/efratfurst/learning-in-the-brain>)

Notes:

Flexible and inflexible knowledge

- > Inflexible knowledge is meaningful, but narrow; it's narrow in that it is tied to the concept's surface structure
- > Knowledge is flexible when it can be accessed out of the context in which it was learned and applied in new contexts

(Willingham, 2002)

Scenario	Inflexible knowledge	Flexible knowledge
<p>Kamara has learnt about questioning to check for understanding in '110: Questioning'.</p> <p>In his mentoring meeting, he practices writing some end of lesson questions to check for understanding for his upcoming year 2 science lesson. In the following lesson, he implements this successfully using mini whiteboards.</p>	<p>Kamara is regularly successful at planning check for understanding questions for the end of lessons, particularly in science lessons.</p> <p>However, his mentor notices:</p> <ul style="list-style-type: none"> • He does not use check for understanding questions in other subjects, such as English and history • He does not use check for understanding questions at other points in the lesson • He always uses mini-whiteboards to check for understanding 	<p>Kamara is regularly successful at planning check for understanding questions across subjects, at important points during a lesson, and using a variety of tools.</p> <p>This is because Kamara understands the following principles:</p> <ul style="list-style-type: none"> • All subjects have important knowledge, and teachers should check pupils have understood this • Teachers should consider what knowledge is key in a lesson, and check this before moving on • Teachers should aim to collect a wide sample of answers, but the way this is done might vary

Notes:

Reflection

Think about one of the ECTs you have worked with over the past year.

- > What contextual changes might your ECT be experiencing this year? E.g. change of classes, year group, subject or topic.

- > To what extent has your ECT appeared to develop their practice in one context, but have found this more challenging to apply it to other contexts?

Notes:

Reading Activity

Carbonell, K. B., Stalmeijer, R. E., Könings, K. D., Segers, M., & van Merriënboer, J. J. (2014). *How experts deal with novel situations: A review of adaptive expertise. Educational research review, 12, 14-29.*

Extract 1

1. Introduction

Today's work environments are characterized by increasing complexity due to higher levels of required knowledge and task volatility (Howard, 1995; Molloy & Noe, 2009; Tannenbaum, 2001). It is no longer sufficient to be an expert in one domain, but employees need to be able to combine different specializations (Pink, 2006), adapt to changes in their domain (Smith, Ford, & Kozlowski, 1996), and develop their expertise and become proficient in other domains (van der Heijden, 2002). In short, they must be able to deal effectively with novel situations and problems. Therefore, flexibility at the workplace becomes a critical ingredient for career success (van der Heijden, 2002). While some people quickly overcome changes in work requirements by inventing new procedures and using their expert knowledge in novel ways (Hatano & Inagaki, 1986; Holyoak, 1991), others do not possess this ability and find themselves thrown back performing as a novice. This ability to quickly get accustomed to change has been called adaptive expertise (Hatano & Inagaki, 1986).

Adaptive expertise is generally seen as important, but its characteristics and development are ill understood. Achieving a better understanding of the concept of adaptive expertise is necessary to design learning activities that contribute to its development. Therefore, the aim of this systematic review is to establish what the characteristics of adaptive expertise are and with which training and task characteristics it flourishes. By analyzing the characteristics that distinguish adaptive expertise from routine expertise, it will become possible to deduct what learning activities lead to it.

Hatano and Inagaki (1986) first coined the term adaptive expertise and contrast it with routine expertise. They conceptualize that both types of expertise comprise the same extent of domain knowledge and the ability to perform flawless in familiar situations. However, the difference becomes apparent once confronted with an unfamiliar situation: A situation in which the task, method or desired results are not known in advance (Ellström, 2001). While individuals with routine expertise struggle with the new demands, adaptive expertise allows for easily overcoming the novelty and quickly regaining a high level of performance thanks to a knowledge representation which allows for flexibility (Schwartz, Bransford, & Sears, 2005). In contrast to routine expertise, individuals with adaptive expertise possess the knowledge of why and under which conditions certain methods have to be used or new methods have to be devised.

Various authors studying adaptive expertise have provided numerous descriptions with features that fall apart in three groups. First, adaptive expertise entails all the basic components of routine expertise (e.g., Fisher & Peterson, 2001; Hatano & Oura, 2003; Martin, Rivale, & Diller, 2007; Mylopoulos & Woods, 2009; Varpio, Schryer, & Lingard, 2009). Second, adaptive expertise is marked by better developed meta-cognitive skills than routine expertise (e.g., Crawford, Schlager, Toyama, Riel, & Vahey, 2005; Martin, Petrosino, Rivale, & Diller, 2006). Third, adaptive expertise is set apart through abilities such as flexibility, ability to innovate, continuous learning, seeking out challenges, and creativity (e.g., Barnett & Koslowski, 2002; Crawford et al., 2005; Hatano & Oura,

2003; Martin et al., 2006, 2007; Mylopoulos & Scardamalia, 2008; Varpio et al., 2009). These characteristics point to two important facets of adaptive expertise. Firstly, it develops out of routine expertise. This is based on the first characteristic and implies that both forms of expertise are observable through accurate and efficient performance on domain-relevant and familiar tasks. It is postulated that individuals with routine expertise maintain their performance but halt their learning (Chi, 2011) and thus do not further develop into the stage of adaptive expertise. Secondly, Hatano and Inagaki (1986) suggest that adaptive expertise is after all domain-dependent because it is through accumulated experiences that adaptive expertise develops. In line with this conceptualization, researchers typically define the situation in which adaptive expertise is beneficial over routine expertise as changes in work and/or job task requirements (Allworth & Hesketh, 1999; Blickle et al., 2011; Griffin & Hesketh, 2003), changes in the complexity of situations (Chen, Thomas, & Wallace, 2005), changes from usual to unusual situations (Joung, Hesketh, & Neal, 2006), or changes from common to exceptional situations (Neal et al., 2006).

...

Starting from our preliminary description of adaptive expertise and how research on adaptive expertise differs from expert performance research, a systematic literature review was conducted to detail characteristics of adaptive expertise and the environments in which individuals with a high level of adaptive expertise excel. We aim to answer four research questions. To create a well-founded conceptual understanding of adaptive expertise, the aim of the first two questions is to pinpoint which learning and personality-related factors are characteristic for adaptive expertise and not for routine expertise:

1. What learner characteristics (knowledge, skills, regulation processes, and past experience) influence adaptive expertise?
2. What personality factors influence adaptive expertise?

The goal of the latter questions is to discover which environmental factors benefit behaviors indicating adaptive expertise:

3. What task and training characteristics (e.g., instruction, task complexity) influence adaptive expertise?
4. What characteristics of the learning climate (e.g., tolerance of mistakes, supervision) influence adaptive expertise?

Extract 1 questions:

1. How is adaptive expertise defined, and how is it different to routine expertise?

Notes:

2. Why is adaptive expertise likely to be important for teachers to increasingly develop?

Notes:

Extract 2

3.2. What learner characteristics influence adaptive expertise?

The learner characteristics identified in the reviewed articles refer to four categories: domain knowledge, skills, regulation processes, and past experience [...].

3.2.1. Domain specific knowledge and skills

Domain knowledge refers to declarative knowledge (knowing that), procedural knowledge (knowing how) and conditional knowledge (knowing when and where) individuals need to possess in order to perform in a specific domain (Alexander, 1992). Experts and novices have different knowledge representation (extent, organization, abstraction, and consolidation) which influence how they retrieve information (Chi, 2006) and thus solve problems (Schwartz et al., 2005).

...

The following conclusions regarding domain specific knowledge and skills can be made: Firstly, knowledge extent is important for adaptive expertise. Secondly, the manner in which this body of knowledge is organized plays an even greater role for adaptive expertise. Adaptive expertise results in the organization of knowledge, which makes it easy to be applied to various situations. Thus, the knowledge representation, in terms of organization, abstraction, and consolidation, is decontextualization, weakening the link between situation and solution. Through this, it is easier for individuals to apply a known solution to a new situation. Therefore, declarative knowledge has a stronger impact on adaptive expertise than contextual knowledge.

3.2.2. Domain-independent skills

Several studies report on domain-independent skills such as cognitive flexibility and analogical problem solving.

...

The findings presented in the above section supports the hypothesis that analogical problem solving skills and abstract reasoning skills positive relate to adaptive expertise. The ability to represent problems in such a way that analogies between domains can be made makes it possible to find solutions for novel problems.

...

3.2.3. Regulation processes

Regulation encompasses cognitive, affective and behavioral processes through which learners monitor their learning processes and the progress they make (Cannon-Bowers & Bowers, 2009). The investigated regulation processes in the context of adaptive expertise are self-efficacy, goal-setting and goal achievement, and regulation of emotions.

...

The reviewed studies provide evidence that a number of regulation processes are important for adaptive expertise. Self efficacy for the task as well as goal-setting and achievement seem to have a positive impact on the ability to deal with novel problems. Emotional regulation needs to be further researched before the results can be generalized.

3.2.4. Past experience

...

The results regarding past experience indicate that unpredictable situations and experience with learning activities are beneficial for adaptive expertise, whereas experience with other people do not influence adaptive expertise. Other forms of experiences have not been sufficiently studied to draw conclusions.

Extract 2 question:

3. What factors seem to have a positive impact on learners developing adaptive expertise? What are the implications of these for supporting ECTs?

Notes:

Extract 3

4. Discussion

...

The original conceptualization of adaptive expertise can be refined in the following point, addressed by the first two research questions: Adaptive expertise has similar, but not the same, basic components than routine expertise. They share the same extent of domain knowledge and skills, but differ in their knowledge representation. These representational differences have been shown to lie within the organization and abstraction of knowledge. Only partial support could be found for the other two points, higher meta-cognitive skills and specific abilities, mentioned in the definition of adaptive expertise: Some regulative processes have been addressed, but apart from self-efficacy to perform a task, no other factors has shown consistent result or researched often enough to allow generalization. Regarding specific abilities, the review has shown that general cognitive abilities and analogical problem solving are important elements of adaptive expertise. New characteristics of adaptive expertise not mentioned previously are the importance of being confronted with novel situations and learning new tasks. Past experience related to dealing with other people and their viewpoints does not relate to adaptive expertise.

Research questions 3 and 4 dealt with task, training, and environmental factors relevant for adaptive expertise. The review provides clear evidence that adaptive expertise is related to asking individuals to develop their own solution strategy. This may take the form of unguided exploration or other forms of active learning styles. In such learning formats the possibilities for making errors is great, which further benefits adaptive expertise if a link is made between the errors and the to-be-learned knowledge. Establishing this link leads to deeper understanding of the domain, resulting in a knowledge representation beneficial for adaptive expertise. Lastly, the findings indicate that adaptive expertise is related to supportive supervisors.

...

While analyzing the studies, it became clear that adaptive and routine expertise should be related to different knowledge representations. These differences in representation result in the superior performance in novel situations. Routine expertise is limited by its lack of awareness of the context-specificity of its knowledge. In addition, they may lack cognitive and/or analogical problem solving abilities. This results in individuals with routine expertise not knowing how to deal with novel situations. This assumption is supported by the evidence presented in the third research question on task and training characteristics. Activities should stimulate learners to explore the topic and encourages errors. This allows individuals to try out different solution methods and thus gain a better understanding of the domain (Hatano & Inagaki, 1986). Variety in practice aids the creation of a flexible knowledge base and is thus related to adaptive expertise (Hatano & Inagaki, 1986; Van Merriënboer, Jelsma, & Paas, 1992). In the same manner, a work environment which provides a variety of tasks also leads to a flexible knowledge base.

Extract 3 question:

4. What tasks or activities seem to positively influence adaptive expertise?

Notes:

Check for understanding

Which of the following statements are true?

- a) Teachers who have been initially introduced to a new idea will be able to easily use it in a variety of contexts
- b) Once an idea is understood in long-term memory, it can be easily drawn on in a variety of contexts
- c) Teachers who have built expertise in one context will be able to apply it in other contexts
- d) Practicing using knowledge or skills in different contexts can make it easier to use in other contexts

Reflection

Think again about one of the ECTs you have worked with over the past year.

Which areas are priorities for further developing their mental models in year 2? You could consider:

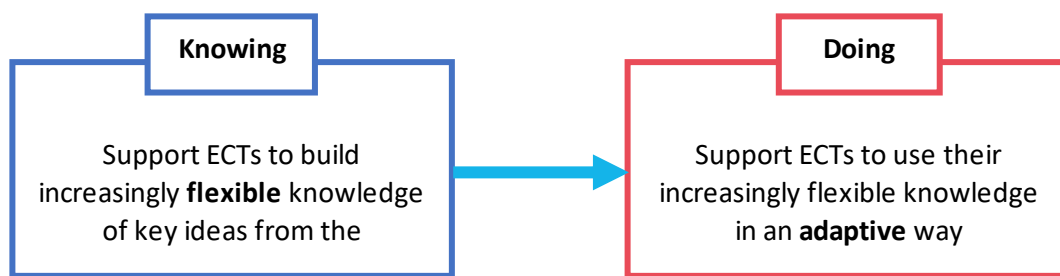
- > Areas where they appear to have more limited mental models
- > Areas where they appear to have developed some expertise in a particular context but struggle to apply it to other contexts

- > Areas where they appear to demonstrate expertise in a range of contexts

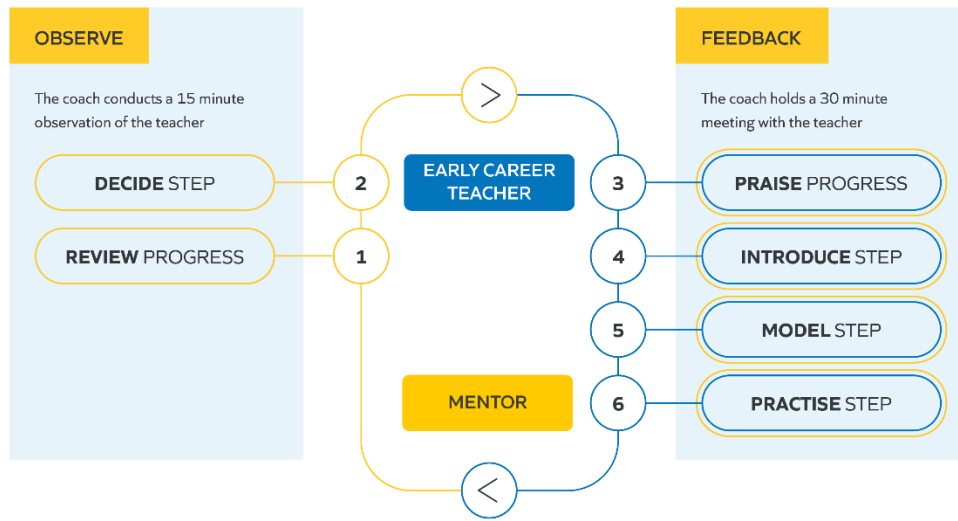
Notes:

Section 3: Adapting the coaching model

Aims of coaching in year 2



Instructional coaching model



Notes

Success criteria

- > Consider prior knowledge
- > Be intentional about purpose
- > Draw attention to deep structures

- > Ensure multiple rounds of practice and feedback

Notes

Increasing variation

- > Visible symptom: an ECT is struggling to apply their knowledge across different contexts, such as to a different class, subject, topic or lesson moment.
Their understanding is perhaps closely tied to the context through which they first learnt this knowledge.
- > Variation of context is where ECTs are supported to practice in a range of contexts, in order to 'decontextualise' their understanding from the context it was first introduced in.
- > Includes:
 - **Varying the context of a step:** asking ECTs to repeat or revisit a step in a different context, such as in a different class, subject or time of day, after they have successfully applied a step in a previous context.
 - **Varying the conditions of practice:** During practice, asking ECTs to apply their understanding from one context to another.

Varying the conditions of practice

Example 1

Example 2

<p>Chynia is a history teacher in her second year. As it is the start of the year, her mentor decides to set her a step on how she diagnoses and responds to pupil emotions as they enter the classroom. Her mentor asks her to focus on her year 10 class, who sometimes appear stressed. Chynia had strong entry routines last year, and so, during practice, meets the step success criteria quickly. Chynia appears unsure about how she could adapt this step though, so her mentor asks her to practise this step with her year 8 class, who are more boisterous. Her mentor focuses Chynia's attention on the success criteria for the step, and gets her to practise until she is repeatedly successful in this context too.</p>	<p>Wade is in his second year on the programme. He is relatively confident at modelling for pupils during practical lessons such as PE, does not always apply this knowledge in other lessons. His mentor wants Wade to develop his knowledge of this step further. During practice, his mentor asks Wade to plan how he will model in an upcoming art lesson where pupils will be drawing a still life, using the success criteria attached to the step. He is successful with this, so his mentor then asks him to plan a model for an upcoming English lesson, where pupils will be writing a letter. Wade's mentor reminds him of the success criteria attached to the step, and after a first draft, gets him to re-draft part of his model to meet one of these criteria.</p>
--	---

Success criteria	Notes
Consider prior knowledge	
Be intentional about purpose	
Draw attention to deep structures	
Ensure multiple rounds of practice and feedback	

Adding complexity

- > Visible symptom: an ECT is regularly successful with a step, both in practice, and in the classroom.
However, an ECT seems to struggle to successfully implement this step when events in the classroom do not mirror practice (for example, if pupils do not respond in the expected way) or when they are focused on practicing and implementing a different step.
- > Adding complexity can be understood as intentionally increasing the difficulty of practice in order to support ECTs to consider how they might respond or adapt their approach.
- > Includes:
 - **Use challenge within steps:** intentionally set steps that are well-matched to an ECT's prior knowledge and current practice
 - **Plan for unpredictability:** set up practice where an ECT's step is initially unsuccessful, or pupils do not respond in the expected way
 - **Layer steps:** ask ECTs to practice a previous step together with their current step

Planning for unpredictability

Example	Non-example
<p>Dante is effectively practising a step on using clear signals to get pupils' attention and is repeatedly meeting the success criteria. For the next round of practice, Dante's mentor asks him to prepare his next steps if some pupils do not act on this signal immediately. Dante's mentor chooses this variation as he knows this is a common challenge that teachers face in relation to this step.</p> <p>In the practice, Dante is able to respond effectively. His mentor asks him to reflect on the adaptations he made to his practice, but also how he met the success criteria. They agree that Dante could strengthen his use of one of the success criteria, and so do another round of practice.</p>	<p>Sumeya is practising a step on using anonymous reminders to address low-level disruption, and still needs to focus on some of the attached success criteria. For the next round of practice, Sumeya's mentor decides to role-play a pupil who is persistently disruptive. Sumeya's mentor chooses this variation to see if Sumeya can think beyond the step too.</p> <p>In the practice, Sumeya struggles to meet the success criteria or respond to the unpredictability. This is also something Sumeya's mentor notices when she observes her lesson the following week.</p>

Success criteria	Notes
Consider prior knowledge	
Be intentional about purpose	

Draw attention to deep structures	
Ensure multiple rounds of practice and feedback	

Use of questioning

- > Visible symptom: an ECT is improving their practice, or is able to demonstrate effective practice with a step.

However, it is unclear whether they have a secure understanding of the purpose that sits behind the step, which would inform their understanding of how they might use or apply the step in a range of contexts.

Questioning is an important part of instructional coaching. The types of questions that mentors ask can support ECTs to reflect on the purpose of a step, and how it might be used or adapted for an identified outcome.

Questioning

- > Encourage ECTs to reflect on their current and target practice
 - *I noticed that... what can you tell me about it? What impact did this have on pupil learning?*
 - *What is the difference between my model and your current practice?*
 - Why do you think pupils responded in this way?
 - Can you use the criteria to explain what was effective about my model?
- > Encourage ECTs to make connections in their knowledge
 - How did your practice help you to meet the success criteria of the step?
 - Where and when else might you use this step?
 - When might this step not be appropriate to use?

Success criteria	Notes
Consider prior knowledge	

Be intentional about purpose	
Draw attention to deep structures	
Ensure multiple rounds of practice and feedback	

Reflection

- > Can you think of examples in your existing mentoring when you have already adapted the coaching model?
- > Think about one of the ECTs you have worked with over the past year. How might you adapt the coaching model for your ECT in year 2?

Notes:

Section 4: Adapting the coaching model – in practice

Instructional coaching quiz

1. Which of the following are key features of instructional coaching?

- a) Roleplay
- b) Bite-sized steps for improvement
- c) A regular routine
- d) Low-stakes practice & feedback

2. What are the key elements of deliberate practice?

3. Explain how instructional coaching helps build teachers' mental models.

Case study 1 background: Nick and Leah

Nick is coaching Leah, a teacher at the start of her second year of induction. Leah has made strong progress during her first induction year. Having completed her ITT in the same school she also has considerable knowledge of the school procedures and culture. Although Leah built effective routines for behaviour last year, Nick has decided to revisit the behaviour strand for at least the first half term of the second year. This will provide Leah with support in transferring and adapting her routines to her new class(es), as well as the opportunity to practise some of the skills in modules that were not covered in year 1. Coaching Leah on the same area for a period of time will help Leah to build her sense of self-efficacy in this area; the sense of success will also build her confidence.

So far this term, informed by Leah's diagnostic, Leah and Nick have worked on re-establishing routines (B2) and directing pupils' attention during modelling (B7). Leah's most recent self-study was B10: Independent practice, which she hadn't studied in year 1. From talking to Leah and watching her teach this term, Nick had already thought that she might benefit from some support with setting up independent practice. He decided to observe a segment of the lesson where Leah was moving from modelling to independent practice; this would give him a good opportunity to identify whether Leah really did need to work on setting up independent practice next.

In the lesson, Nick noticed that when Leah set pupils going on an independent task, some of them got stuck quickly and couldn't resolve their problems without Leah's help. Leah's instructions for the task and her explanation beforehand were both clear – she was achieving her previous action step of directing pupils' attention to the key aspects of her model. Leah also checked for understanding using a multiple-choice question. Nick noticed that the pupils who were able to get on with the task were using the worked example on the board and looking back through their notes for support. He decided to look at the development area "Establishing clear expectations for independent practice" and narrows his focus to "Teacher gives pupils strategies to tackle the work if they think they are stuck before resorting to asking the teacher". He decides to start with the most straightforward step as he knows he can always add challenge into the practice. Nick chooses the step: **"Before pupils do independent work, give them one strategy they should use before asking you for help with tackling the content of the task, e.g. refer to the example on the board."**

The success criteria for the action step are:

- > **Concrete:** 'Look at the example on the board.' NOT 'Think about what I just taught you.'
- > **Applicable:** teacher gives a strategy that will be helpful for pupils across tasks.

Case Study 1 (Nick and Leah): ‘introduce step’ and ‘model step’ stages

Mentoring step	Success criteria	Met? (Y/N)
Where relevant, adapt the coaching model	Consider prior knowledge: Ensure that the ECT is successfully implementing the step in the original context before making any adaptations. This might include reflecting on ECTs’ practice, or asking questions to build a picture of their current understanding	
	Be intentional about purpose: Consider why it might be valuable to made adaptations to the coaching model, and communicate this thinking with the ECT.	
	Draw attention to deep structures: Emphasises the importance of the success criteria as the features or structures underpinning success during any adaptation of practice.	
<p>Adaptation: use of questioning</p> <ul style="list-style-type: none"> > What questions did the mentor ask to provide stretch? > What made them effective? (Consider the success criteria for adapting the coaching model) > What was the impact on the ECT? 		

Case study 2: Shifa and Frank

We will use a similar case study to practise, but with a different step. This time we will consider Shifa who is mentoring Frank, an ECT. Their context is similar to that of Leah and Nick from earlier.

Shifa is coaching Frank, a teacher at the start of his second year of induction. Frank has made strong progress during his first induction year. Having completed his ITT in the same school he also has considerable knowledge of the school procedures and culture. Although Frank built effective routines for behaviour last year, Frank's diagnostic quiz highlighted that Frank struggled to recall some of the core ideas from this strand. Shifa has decided to revisit the behaviour strand for at least the first half term of the second year. This will provide Frank with support in recalling key ideas, as well as transferring and adapting his routines to his new class(es), and the opportunity to practise some of the skills in modules that were not covered in year 1. Coaching Frank on the same area of teaching for a period of time will help Frank to build his sense of self-efficacy in this area; the sense of success will also build his confidence.

Frank has discussed with Shifa that although he feels that he is successful at getting pupils to follow his instructions, he'd like to get them to do this more quickly, to make better use of the lesson time. This helped Shifa focus on a particular aspect of Frank's practice when she watched his lesson.

In the lesson, Shifa noticed that when Frank gives instructions, he gets pupils' attention successfully and is positioned so he can check they follow his instructions. Shifa agreed with Frank that some pupils are taking longer than they need to, and thinks that module B4: Directing Attention might contain some techniques that Frank might find effective. She thinks that he can utilise the norms he has set in the classroom to push them to do this. She decided to look at the development area "Using positive reinforcement and social norms" and narrows her focus to "Teacher encourages pupils to quickly follow their instructions using repeated positive reinforcement and time limits". She decides to start with the most complex action step as Frank is already using some positive reinforcement. Shifa chooses the step: **"Encourage pupils to follow your instructions quickly by using a time limit in your instructions and quickening the pace of your voice as you reinforce the behaviours you see."**

The success criteria for the step are:

- > Timed: the instructions state the specific actions pupils need to take in an ambitious but achievable time limit.
- > Build reinforcement: teacher calls out the behaviour and continues highlighting more and more pupils doing it, e.g. "Jamie has his sheet stuck in... now the front row all do..."
- > Quick-fire: the pace of reinforcement quickens as more pupils do the behaviour, highlighting that following instructions is the social norm.
- > Measured: teacher shows appreciation for positive behaviour but does not treat it as an accomplishment when it is not, e.g. 'Front row have their pens moving.' NOT 'Fantastic! It is great to see the front row with their pens moving.'

Case Study 2 (Shifa and Frank): 'Introduce step' & 'Model step'

Step

Encourage pupils to follow your instructions quickly by using a time limit in your instructions and quickening the pace of your voice as you reinforce the behaviours you see

Success criteria

- > **Timed:** the instructions state the specific actions pupils need to take in an ambitious but achievable time limit.
- > **Build reinforcement:** teacher calls out the behaviour and continues highlighting more and more pupils doing it, e.g. "Jamie has his sheet stuck in... now the front row all do..."
- > **Quick-fire:** the pace of reinforcement quickens as more pupils do the behaviour, highlighting that following instructions is the social norm.
- > **Measured:** teacher shows appreciation for positive behaviour but does not treat it as an accomplishment when it is not, e.g. 'Front row have their pens moving.' NOT 'Fantastic! It is great to see the front row with their pens moving.'

Steplab practice tasks

- > Access the resources for an upcoming lesson.
- > Script a set of instructions you will need to deliver that lesson and include a time limit, e.g. 'When I say go, you will pack your equipment in your bags and stand behind your desks silently. Let's see if we can get it down to 15 seconds.'
- > Select a behaviour you expect some pupils will do immediately and others will need some support remembering to do.
- > Script statements you will say that would show pupils more and more of them are following your instructions quickly, e.g. 'Karen and Jason have tucked their chairs under neatly... So has everyone on the front table...'
- > Stand up in role to practise delivering the instruction, scanning the class and delivering the quick, positive reinforcement as if the pupils were present.

Planning: 'introduce step' and 'model step' stages

Plan a model to support Frank with the step outlined in case study 2, and plan the questions you might ask to support him to reflect on his practice and make connections in his knowledge (using case study 1 as a model)

Space to plan your model:

Space to plan questions you might choose to ask in the meeting, and why:

Note to person acting as the teacher, use the case study to guide your answers to the questions.

Default prompts:

- > *I noticed that... what can you tell me about it? What impact did this have on pupil learning?*
- > *What is the difference between my model and your current practice?*

Practice: ‘introduce step’ and ‘model step’ stages

Timing: approx. 8-10 minutes per round

- > **4-5 minutes:** Person A as the mentor shares the step and the model and leads the analyse conversation with person B as the teacher
- > **1-2 minutes:** Person B provides feedback to person A based on the mentoring step’s success criteria
- > **3 minutes:** Person A re-practises the relevant section based on the feedback to improve
- > **Swap roles**

Mentoring step	Success criteria	Met? (Y/N)	
		Round 1	Round 2
Where relevant, adapt the coaching model	Consider prior knowledge: You consider ECTs’ prior knowledge before making any adaptations. This might include reflecting on ECTs’ practice, or asking questions to build a picture of their current understanding		
	Be intentional about purpose: You identify the purpose for any adaptations to the coaching model, and, where possible, communicate this to your ECT		
	Draw attention to deep structures: You intentionally draw your ECT’s attention to the success criteria of a step during any adaptation of practice		
What went well –			
Next time try –			

Case study 1: Nick and Leah

Case Study 1 (Nick and Leah): ‘practise step’ stage

Mentoring step	Success criteria	Met? (Y/N)
Where relevant, adapt the coaching model	Consider prior knowledge: The mentor considers ECTs’ prior knowledge before making any adaptations. This might include reflecting on ECTs’ practice, or asking questions to build a picture of their current understanding	
	Be intentional about purpose: The mentor identifies the purpose for any adaptations to the coaching model, and communicates this to their ECT	
	Draw attention to deep structures: The mentor draws their ECT’s attention to the success criteria of a step during any adaptation of practice	
	Ensure multiple rounds of practice and feedback: the mentor ensures that ECTs have time to practise, receive feedback, and re-practise	
<p>Adaptation: adding unpredictability</p> <ul style="list-style-type: none"> > How did the mentor add unpredictability to the practice? > What made this effective? (Consider the success criteria for adaptations) > What was the impact on the ECT? 		

Case study 2: Shifa and Frank

Case Study 2 (Shifa and Frank): 'practise step' stage

Shifa's introduction to this stage of the coaching cycle (for context)

"Firstly, you're going to script your instructions. After that I'll ask you to read through them and check them against the success criteria. Then I'll ask you to deliver them in role as a teacher.

I'll give you feedback based on the success criteria and you'll re-practise based on the feedback.

The success criteria are:

- > **Timed:** the instructions state the specific actions pupils need to take in an ambitious but achievable time limit.
- > **Build reinforcement:** teacher calls out the behaviour and continues highlighting more and more pupils doing it, e.g. "Jamie has his sheet stuck in... now the front row all do...'
- > **Quick-fire:** the pace of reinforcement quickens as more pupils do the behaviour, highlighting that following instructions is the social norm.
- > **Measured:** teacher shows appreciation for positive behaviour but does not treat it as an accomplishment when it is not, e.g. 'Front row have their pens moving.' NOT 'Fantastic! It is great to see the front row with their pens moving.'

Any questions? Great – I will let you start scripting now then."

The instructions that Frank scripts (to be played by the person in-role as the ECT)

"When I say go, I want you to pass the sheets down your row. Let's see if we can get this done in under 15 seconds. Remember:

1. Person nearest the aisle takes one sheet, passes the rest to the person next to them.
2. This person takes one sheet and passes the rest to the person next to them, going in the same direction.
3. Repeat until everyone has a sheet.
4. Keep any spare sheets at the end of the row.
5. Okay, when we are ready [scans]... off we go."

Frank will use a countdown and provide reinforcement after giving the instructions.

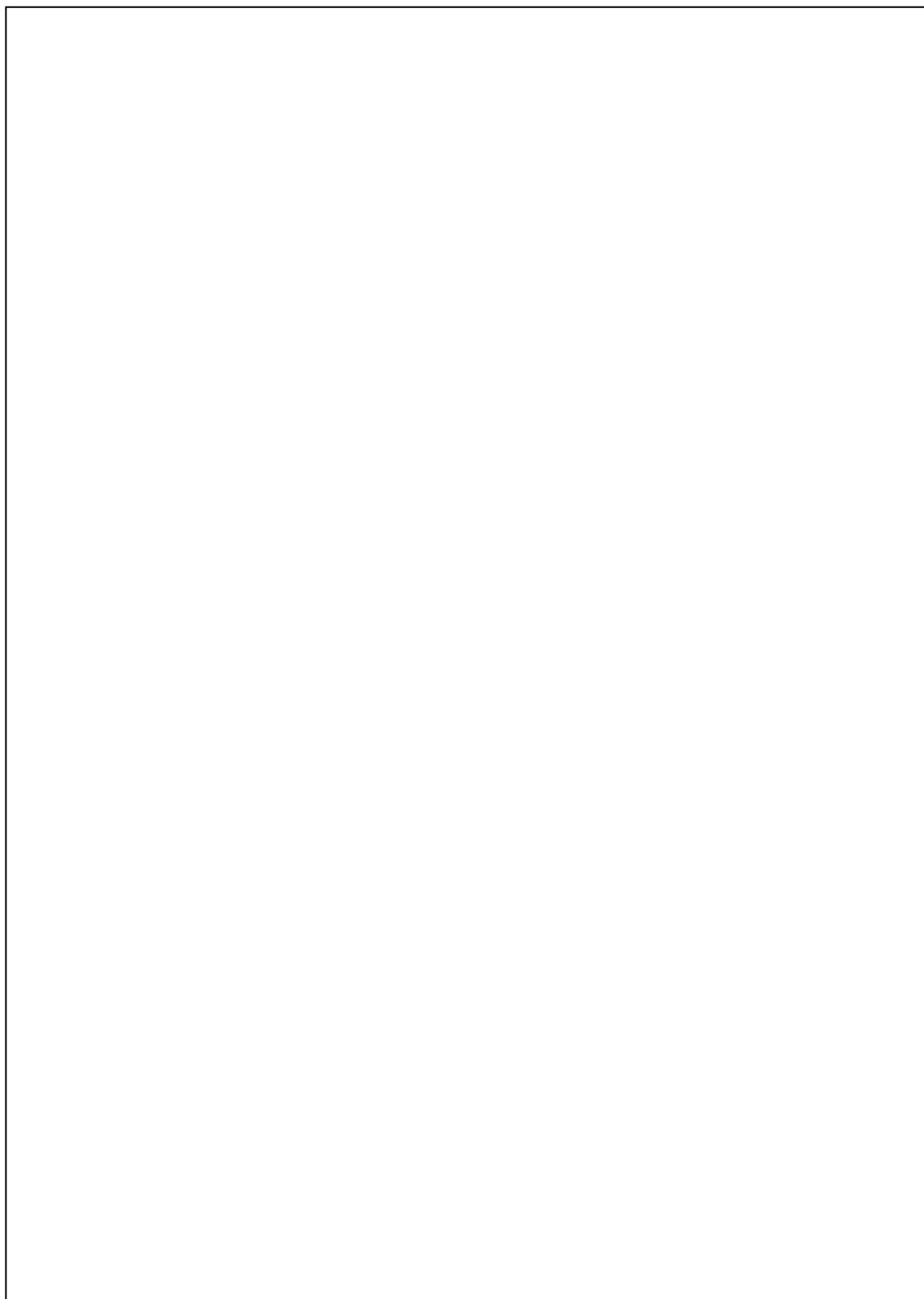
Planning: 'practise step' stage

Plan the adaptations you might make to subsequent rounds of practice, if Frank demonstrates secure practice quickly (using case study 1 as a model)

Adaptations covered in detail earlier in the conference:

- Varying the conditions of practice
- Planning for unpredictability

- Questioning



Practice: 'practise step' stage

When in role as the ECT, aim to demonstrate secure practice relatively quickly so the person in role as the mentor can practise adapting the coaching model in response.

Timing: approx. 10 minutes per round

- > **6 minutes:** Person A will be the mentor, and person B will be the ECT. Begin the practice with the mentor (person A) asking the ECT (person B) to practise delivering their scripted instructions (written on the previous page). Person B should demonstrate secure practice relatively quickly, and person A should practise adapting the coaching model in response, using their planning.
- > **1 minute:** Person B provides feedback to person A based on the mentoring step's success criteria
- > **3 minutes:** person A re-practises the relevant section based on the feedback to improve
- > **Swap roles**

Success criteria

Mentoring step	Success criteria	Met? (Y/N)	
		Round 1	Round 2
Where relevant, adapt the coaching model	Consider prior knowledge: You consider ECTs' prior knowledge before making any adaptations. This might include reflecting on ECTs' practice, or asking questions to build a picture of their current understanding		
	Be intentional about purpose: You identify the purpose for any adaptations to the coaching model, and, where possible, communicate this to your ECT		
	Draw attention to deep structures: You intentionally draw your ECT's attention to the success criteria of a step during any adaptation of practice		
	Ensure multiple rounds of practice and feedback: You ensure that ECTs have time to practise, receive feedback, and re-practise		
What went well –			

Next time try –

Section 5: Implementation

Preparing for year 2

Dos:	Don'ts:
<ul style="list-style-type: none"> > Do make sure that you and your ECT(s) have timetabled time to meet. Remember that the funding covers a 5% reduction in timetable for early career teachers, and time for mentors to meet with teachers. 	<ul style="list-style-type: none"> > Don't cram in additional self-study or coaching sessions in the summer term this academic year. There is no need to 'finish' the content in Year 1. In fact, this is likely to be actively unhelpful. All the content will continue to be available in Year 2.
<ul style="list-style-type: none"> > Do spend time reflecting on the first year of the programme, individually and together. What went well? Did you effectively build habits? What would you do differently? 	<ul style="list-style-type: none"> > Don't spend time 'collecting evidence' for the content within the ECF. The ECF is an entitlement to support and is not linked to assessment for passing induction.

Enabling conditions

- > Mentor/teacher relationship
- > Time
- > Leadership support
- > School culture
- > ECT subject/phase knowledge
- > Effective habits and routines for coaching (and ECT study)

Enabling conditions: review

What might your next steps be in order to ensure that the enabling conditions are in place in school?

	Definitely in place?	If not, action needed?
Has time been protected for you and your ECT to meet at least fortnightly? Is this on both your timetables?		
Is support for ECTs prioritised by school leadership?		

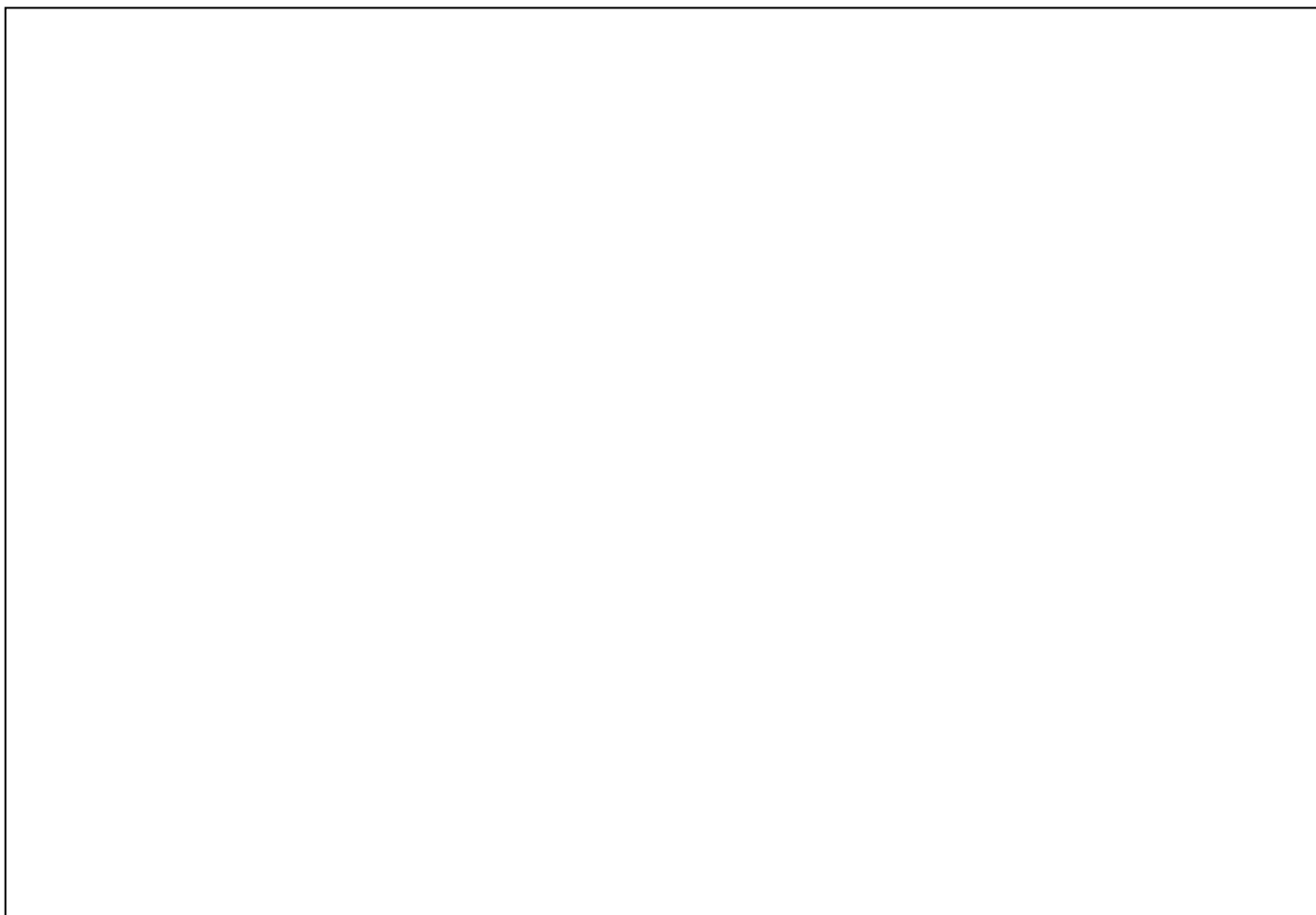
Is regular coaching already a well-developed habit? If not, what are your next steps towards embedding it as a habit? For you? For your ECT?		
Are you aware of any additional support your ECT is likely to need, such as additional subject knowledge support?		
Any other reflections:		

How have you overcome any challenges around enabling conditions in year 1?

Space for notes:

(Re-)contracting

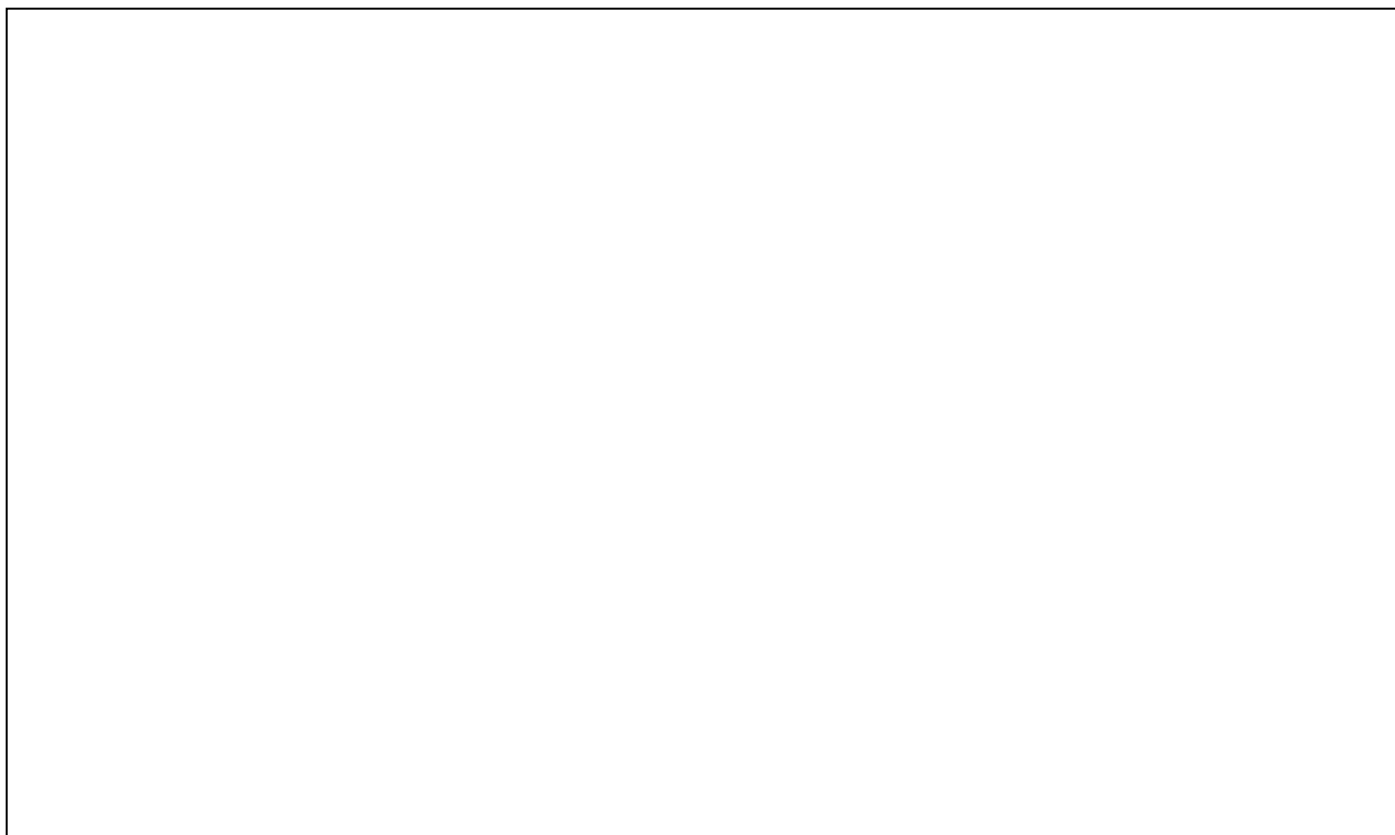
- > Did you use the contracting process to set up your ways of working in September? Have you re-contracted at any point during the year?
- > How did addressing the contracting questions (below) in advance set the relationship up effectively?
 - > What do you want from this relationship?
 - > Where might you need help?
 - > Consider a good working relationship you've had previously. What did this look like?
 - > When things go wrong, what does that look like on your end? How do you behave?
 - > When things go wrong - as they inevitably will- how shall we manage that?
- > If you didn't make use of the contracting structure, what did you do to successfully build a relationship with your teacher?
- > Whether you used the contracting structure or not, is there anything you would do differently, or plan to address, at the start of the second year?



Discussion

- > What areas of classroom practice is your ECT likely to be able to take greater ownership of in year 2?
- > What areas are they still likely to need a greater degree of scaffolding and support?

- > How might you help them choose a focus to start year 2 that allows them to feel successful?



Action-planning for year 2

- > When and where will you meet for coaching?
 - If you can't decide this yet, when will you decide?
- > Where do you think your ECT is demonstrating some expertise? Or where do you think your ECT might be struggling?
 - What might your focus be in September?
- > What will you do to re-contract with your ECT? When will you do this?

What	When	Where	Notes
<i>Example: Fortnightly coaching meeting</i>	<i>Wednesday 3:30pm (will use timetabled reduction for other tasks)</i>	<i>Sean (ECT)'s classroom</i>	
<i>Example: Revisit routines, consistency and instructions</i>	<i>Half-term 1</i>	<i>N/A</i>	<i>Sean needs to re- establish himself with new pupils</i>

- > What are your key takeaways from today's session?

Frequently Asked Questions – Step Selection

Q: Can I choose any step for my ECT to work in in their second year?

A: Steps need to build on ECTs' prior knowledge. If they don't, we run the risk that ECTs will misapply the step as they don't understand its purpose. The weekly self-study content that ECTs engage with is a good proxy for the prior knowledge they are likely to have. If an ECT has engaged with the corresponding self-study, then yes, they may also benefit from a step set from this area.

Q: Do I need to move onto a new step or module every fortnight?

A: No, it is a misconception to think that we must move on to a new step or area each coaching cycle, or that there is no room for improvement when a step has been achieved. We can revisit previously achieved steps, or maintain a continued focus on a step or area over a period of time. Doing so can support ECTs to recall key ideas, and build self-efficacy. We can also set multiple steps in one area over a number of weeks, or adapt the coaching model to respond to ECTs' growing expertise. In short, there is lots of flexibility in which steps you set, when you choose to set them, if you choose to revisit or stick with a step, and how you build in additional support and challenge.

Q: How do I know what the highest-leverage step will be to support my ECT to improve?

A: It is a misconception to think there is only one 'correct' step for improvement. It is actually unlikely to be this clear-cut. Instead, there will be a number of different steps that are likely to be useful for an ECT at any given point. As mentors, we should use our professional judgement, knowledge of our ECT and our context to choose a step that is likely to support them to improve their practice. We can also use the diagnostic tool to identify areas where ECTs have built a significant amount of knowledge, or where they might have gaps and misconceptions. This might inform what we choose to focus on or revisit as part of the fortnightly coaching cycle.

Q: What is the process of selection for a step in year 2? There is so much choice!

A: We advise that, at the start of your ECT's second year, they complete the diagnostic and have a meeting with you to discuss their self-study priorities for the year. This is also a great opportunity to consider what you might want to focus on as part of coaching. As the person who knows your ECT's development best, when choosing steps, you will need to make some decisions about what is likely to be most beneficial for your ECT. As a general principle, it can be beneficial to align the fortnightly step with the self-study that your ECT is engaging with – whether this is completing unfinished modules, revisiting modules as per the results of the diagnostic tool, or completing stretch modules (at the end of each of the stretch modules, steps are outlined which correspond to the content of the module). It can also be beneficial to sustain a focus over a period of time (such as on the steps in a module or strand). However, you might identify gaps, misconceptions or areas of development as part of your observation that are likely to need to be addressed – you can flex to this. You might also identify that your ECT seems to be struggling to apply steps they were relatively confident with last year or in a previous practice – again, you can flex to this. Finally, it might be that your ECT is relatively confident in many aspects of their practice. In this case, you may want to understand their areas of focus in and beyond the programme, and consider how you can support them to develop their expertise and adaptive practice to set them up for success in the long-term.

For more information about the process of setting steps or adding challenge to the coaching cycle, visiting the Mentoring and Coaching Development Area.

Bibliography

Allen, R. and Sims, S., 2018. *The Teacher Gap*. 1st ed. Abingdon: Routledge.

Darling-Hammond, L. and Sykes, G., 2003. Wanted, A National Teacher Supply Policy for Education: The Right Way to Meet The "Highly Qualified Teacher" Challenge. *education policy analysis archives*, 11, p.5.Hanushek (2011:467)

Department for Education. 2020. *Reporting Year 2019: School workforce in England*.

<https://explore-education-statistics.service.gov.uk/find-statistics/school-workforce-in-england>

Department for Education. 2019. *Teacher Recruitment and Retention Strategy*

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/786856/DFE_Teacher_Retention_Strategy_Report.pdf

EEF. 2019. *Staff Deployment & Development*. [online] Available at:

<<https://educationendowmentfoundation.org.uk/school-themes/staff-deployment-development/>>

Fletcher-Wood, H. (2018) Between novice and expert: complex tasks and intermediate learning.

Available here: <https://improvingteaching.co.uk/2018/03/11/between-novice-to-expert-complex-tasks-and-intermediate-learning/>

Foster, D., 2019. *Teacher Recruitment And Retention In England*. [online] House of Commons

Library. Available at: <<https://commonslibrary.parliament.uk/research-briefings/cbp-7222/>>

Hanushek, E., 2011. The economic value of higher teacher quality. *Economics of Education Review*, 30(3), pp.466-479

Hollis, E (2018). Early career framework; what might this mean for recruitment and

retention? Available here: <https://edexec.co.uk/early-career-framework-what-might-this-mean-for-recruitment-and-retention/>

Kraft, M.A. & Blazer, D. (2018). Taking Teacher Coaching To Scale. *Education Next*. 18, No. 4.

Available at: <https://www.educationnext.org/taking-teacher-coaching-to-scale-can-personalized-training-become-standard-practice/>

Kraft M.A. & Papay J.P. (2014) Can Professional Environments in Schools Promote Teacher Development? Explaining Heterogeneity in Returns to Teaching Experience. *Educational Effectiveness and Policy Analysis*. 2014;36 (4) :476-500. Available at:

https://scholar.harvard.edu/files/mkraft/files/kraft_papay_-_prof_env_teacher_development_eepa_full.pdf

Papay J.P. & Kraft M.A. (2016) The Myth of the Teacher Performance Plateau. *Educational Leadership*. 2016;73 (May) :36-42. Available at:

https://scholar.harvard.edu/files/mkraft/files/papay_and_kraft_-_ed_leadership_-_may_2016.pdf

Mccrea, P. (2018). Expert Teaching What is it, and how might we develop it? Available at:

https://www.researchgate.net/publication/324759008_Expert_Teaching_What_is_it_and_how_might_we_develop_it_Peps_Mccrea/download

Sharples, J., Albers, B. and Fraser, S., (2018) 'Putting Evidence to Work' [online] Dera.ioe.ac.uk. Available at: <<https://dera.ioe.ac.uk/31088/1/EEF-Implementation-Guidance-Report.pdf>>

Timperley, H. (2008). Teacher professional learning and development. *Educational Practices* (18). International Academy of Education

Science of Learning

Agarwal, P. K., & Roediger III, H. L. (2018). Lessons for learning: How cognitive psychology informs classroom practice. *Phi Delta Kappan*, 100(4), 8-12. [PDF](#),

Berliner, D. (1988). The development of expertise in pedagogy. American Association of Colleges for Teacher Education, Washington, D.C. Available at: <https://files.eric.ed.gov/fulltext/ED298122.pdf>

Bohle-Carbonell, K., Stalmeijer, R. E., Könings, K. D., Segers, M., & van Merriënboer, J. J. (2014). How experts deal with novel situations: A review of adaptive expertise. *Educational research review*, 12, 14-29. Available at: https://cris.maastrichtuniversity.nl/ws/portalfiles/portal/73014428/merrienboer_2014_how_experts_deal_with_novel.pdf

Clark, R., Kirschner, P. & Sweller, J. (2012). Putting students on the path to learning: The case for fully guided instruction. *American Educator*, 36(1): 6-11. Available at: <https://files.eric.ed.gov/fulltext/EJ971752.pdf>

Clarridge, P. B. & Berliner, D. C. (1991) Perceptions of student behaviour as a function of expertise. *Journal of Classroom Interaction*, 26, p. 1–8.

Deans for Impact (2017) Practice with Purpose: The Emerging Science of Teacher Expertise. Available at: <https://goo.gl/jh8N4Z>

Deans for Impact (2018). *Building Blocks*. [online] Available at: https://deansforimpact.org/wp-content/uploads/2017/11/Building-Blocks_Framework.pdf

EEF. 2018. *Metacognition and self-regulated learning*. [online] Available at: <https://educationendowmentfoundation.org.uk/tools/guidance-reports/metacognition-and-self-regulated-learning/>

Findell, C.R. (2009) What Differentiates Expert Teachers from Others? *The Journal of Education*, 188(2), p. 11–24.

Furst, E. (2018). From neuroscience to the classroom. *ResearchEd* 1, no. 2 (September): 30-33

Furst, E. (2018). *Learning in the Brain*. <https://sites.google.com/view/efratfurst/learning-in-the-brain>

Loewenberg Ball, D., Thames, M. and Phelps, G., 2008. Content Knowledge for Teaching. *Journal of Teacher Education*, 59(5), pp.389-407.

Roediger, H. & Karpicke, J. (2006) "Test-Enhanced Learning: Taking Memory Tests Improves Long-Term Retention." *Psychological Science* 17, no. 3 (March 2006): 249–55.

Roediger, H.L. III, Nestojko, J.F. & Smith, N. (2019). Strategies to improve learning and retention during training. In M.D. Mathews & D.M. Schnyer (Eds.), *The Cognitive and Behavioral Neuroscience of Human Performance in Extreme Settings*. New York: Oxford University Press. [PDF](#)

Schempp, P., Tan, S. & McCullick, B. (2002) The practices of expert teachers. *Teaching and Learning*, 23(1), p. 99–106.

Sternberg, R.J. & Horvath, J.A. (1995) A prototype view of expert teaching. *Educational Researcher*, 24(6), p. 9–17.

Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, 12(2), 257-285

Westerman, D.A. (1991) Expert and Novice Teacher Decision Making. *Journal of Teacher Education*, 42(4) p. 292–305.

Deans for Impact (2015) *The Science of Learning*. Available at: <https://goo.gl/VpUw1y>

Willingham, D. (2002). Ask the Cognitive Scientist: Inflexible Knowledge: The First Step to Expertise. *American Educator*. AFT. Available at: <https://www.aft.org/periodical/american-educator/winter-2002/ask-cognitive-scientist-inflexible-knowledge>

Willingham, D., 2009. *Why Don't Students Like School?*. San Francisco, CA: Jossey-Bass.

Wolff, C.E., Jarodzka, H. & Boshuizen, H.P.A. (2017) See and tell: Differences between expert and novice teachers' interpretations of problematic classroom management events. *Teaching and Teacher Education*, 66, p. 295–308

Teacher change

Grossman, P., Compton, C., Igra, D., Ronfeldt, M., Shahan, E., & Williamson, P. W. (2009). Teaching practice: A cross-professional perspective. *Teachers college record*, 111(9), 2055-2100. Available at: <http://tsl-public.s3.amazonaws.com/threeflows/grossman-et-al-2009.pdf>

Hobbiss, M., Sims, S., & Allen, R. (2020). Habit formation limits growth in teacher effectiveness: A review of converging evidence from neuroscience and social science. *Review of Education*, rev3.3226.

Hood, M. (2016). Beyond the Plateau: The case for an institute of advanced teaching. IPPR. Available at: https://www.ippr.org/files/publications/pdf/beyond-the-plateau_July2016.pdf

Lally, P., Van Jaarsveld, C. H. M., Potts, H. W. W., & Wardle, J. (2010). How are habits formed? Modelling habit formation in the real world. *European Journal of Social Psychology*, 40, 998–1009. Available at: <https://www.researchgate.net/publication/32898894> How are habits formed Modeling habit formation in the real world

Adapting the model

Bohle-Carbonell, K., Stalmeijer, R. E., Könings, K. D., Segers, M., & van Merriënboer, J. J. (2014). How experts deal with novel situations: A review of adaptive expertise. *Educational research review*, 12, 14-29. Available at:

https://cris.maastrichtuniversity.nl/ws/portalfiles/portal/73014428/merrienboer_2014_how_experts_deal_with_novel.pdf

Hill, Heather & Charalambous, Charalambos & Kraft, Matthew. (2012). When Rater Reliability Is Not Enough: Teacher Observation Systems and a Case for the Generalizability Study. *Educational Researcher*. 41. 56-64. Available at

https://www.researchgate.net/publication/254088727_When_Rater_Reliability_Is_Not_Enough_Teacher_Observation_Systems_and_a_Case_for_the_Generalizability_Study

Schmidt H.G., Rikers R.M. How expertise develops in medicine: knowledge encapsulation and illness script formation. *Medical Education*. 2007 Dec;41(12):1133-9. [Link](#)

Willingham, D. (2002). Ask the Cognitive Scientist: Inflexible Knowledge: The First Step to Expertise. *American Educator*. AFT. Available at: <https://www.aft.org/periodical/american-educator/winter-2002/ask-cognitive-scientist-inflexible-knowledge>

Instructional Coaching

Berliner, D. (2001). Learning about and learning from expert teachers. *International Journal of Educational Research* 35, pp.463–482.

Deans for Impact (2017) *Practice with Purpose: The Emerging Science of Teacher Expertise*. Available at: <https://goo.gl/jh8N4Z>

Grossman, P., Compton, C., Igra, D., Ronfeldt, M., Shahan, E., & Williamson, P. W. (2009). Teaching practice: A cross-professional perspective. *Teachers college record*, 111(9), 2055-2100. Available at: <http://tsl-public.s3.amazonaws.com/threeflows/grossman-et-al-2009.pdf>

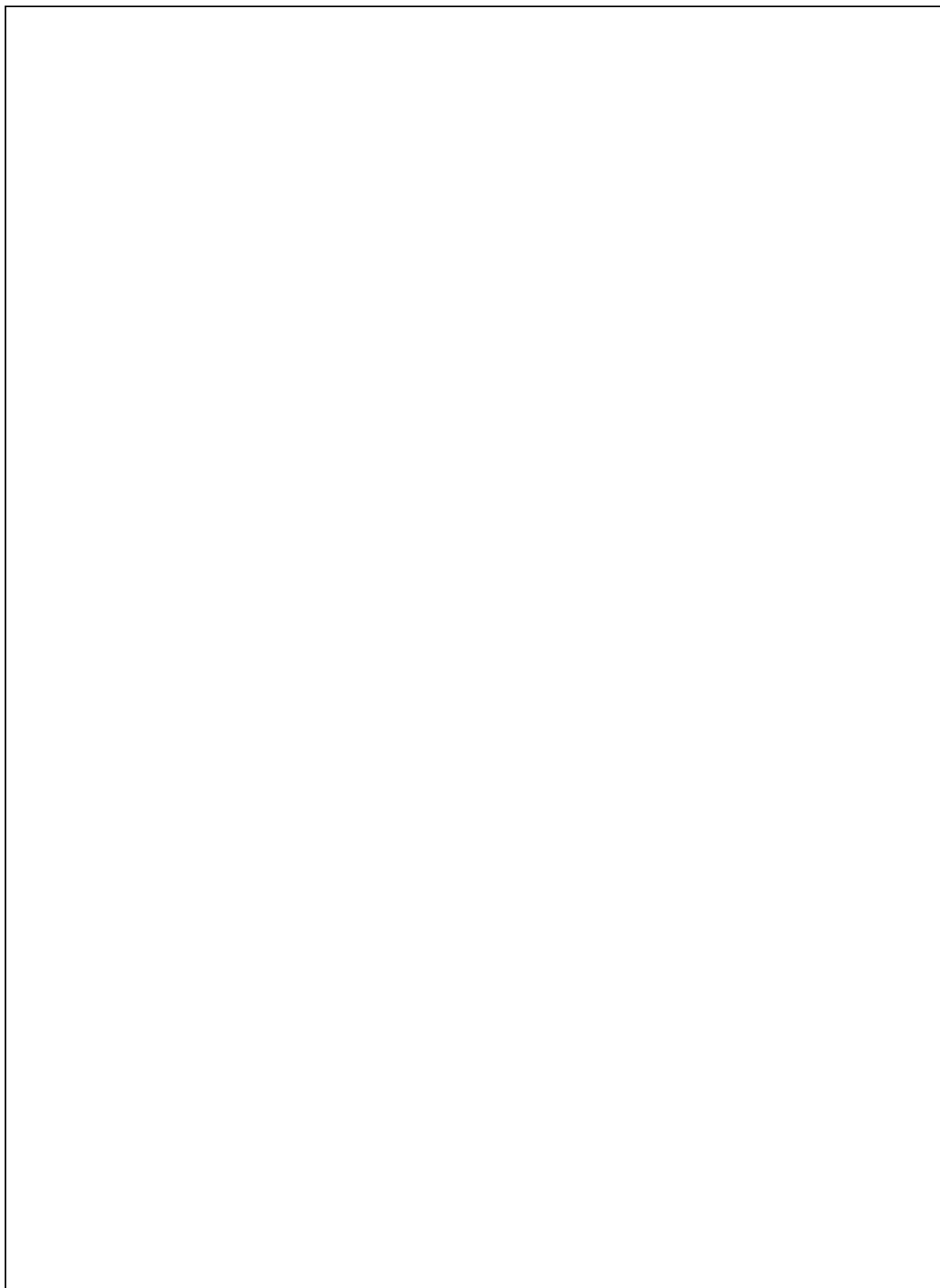
Kraft M.A., Blazar D., Hogan D. [The Effect of Teacher Coaching on Instruction and Achievement: A Meta-Analysis of the Causal Evidence](#). *Review of Educational Research* [Internet]. 2018;88 (4) :547-588.

Implementation

EEF. 2019. *Putting Evidence to Work: A School's Guide to Implementation*. [online] Available at: https://educationendowmentfoundation.org.uk/public/files/Publications/Implementation/EEF_Implementation_Guidance_Report_2019.pdf [Accessed 06 May 2021].

Glei, J., 2013. *Maximize Your Potential: Grow Your Expertise, Take Bold Risks Build An Incredible Career*. 1st ed. Amazon publishing

Space for additional notes

A large, empty rectangular box with a thin black border, intended for taking notes. It occupies most of the page below the section header.