

MENTOR HANDBOOK

17 | INSTRUCTION: PRACTICE AND SUCCESS

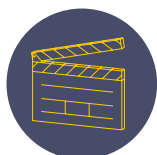
STUDY

KEY TAKEAWAYS FOR THIS MODULE

Your teacher can support successful practice if they understand that:

- > Learning is about remembering and connecting information through thinking hard.
- > Purposeful practice that causes pupils to think hard improves their retention.
- > Effective instruction includes purposeful practice and regular retrieval.

Get yourself into a strong position to mentor your teacher by working through the following:



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SUMMARY BELOW:**

TEACHING CHALLENGE

Mr Andrews is getting better at identifying and conveying what he wants his pupils to learn. But while his checks for understanding reveal pupils have understood what he has taught, he notices that pupils are not yet able to securely grasp and apply key ideas independently. How can his instruction support pupils to consolidate their learning?

KEY IDEA

Providing opportunities for purposeful practice supports pupils to consolidate and secure what they have learned.

LEARNING IS ABOUT REMEMBERING AND CONNECTING INFORMATION

Mr Andrews now understands that ‘learning is the residue of thought’ (Willingham, 2009). In particular, what people have thought hard about (Coe, 2013). Thinking takes place in working memory where people combine knowledge from their long-term memory with new information (Willingham, 2009). To commit new information to long-term memory, pupils must have a strong foundation of prior knowledge.

Pupils consolidate their existing knowledge by retrieving it from long-term memory and using it to answer questions or solve problems (Roediger & Butler, 2011). This allows them to process new information faster and more accurately (Sweller, 2016). For example, they can comprehend new information by linking it with familiar words or ideas. What can Mr Andrews do to support pupils to successfully consolidate material?

PRACTICE SUPPORTS SUCCESSFUL REMEMBERING AND CONNECTING

Regular purposeful practice consolidates pupils’ understanding and helps them remember key ideas. Practice can happen in the ‘We do’ as well as the ‘You do’ parts of instruction. Initially, teachers should scaffold practice as part of ‘We do’ (Lemov, 2015), for example by solving problems with pupils, to show them how to complete problems. Over time, teachers can decrease the support they offer to help pupils practise independently (IES, 2008).

Independent practice tasks (‘You do’) (Lemov, 2015) should relate closely to those covered in guided practice. Otherwise pupils may struggle and waste time identifying what to do (Kirschner et al., in Christodoulou, 2017). This also allows pupils to focus on becoming more fluent at solving a problem or recalling information (Rosenshine, 2012). For example, if the guided practice has been about adding fractions, this should also be the focus of independent practice, rather than adding and subtracting fractions.

Over time, practice should support the development of expertise by consolidating mental models, as thinking hard secures memories and makes new connections. This helps pupils to free up their working memory to tackle more complicated problems (Sweller, 2016). For example, practising times tables allows pupils to tackle more advanced maths problems more easily.

For practice to be effective, teachers need to ensure pupils achieve a high success rate, ideally of around 80% (Rosenshine, 2012). Mr Andrews needs to ensure that where pupils are not regularly successful in their practice, he intervenes with feedback which pupils can act on. He can also acknowledge and praise pupil effort and emphasise progress made toward eventual success. High levels of success also improve pupils’ motivation (Coe et al., 2014).

EFFECTIVE APPROACHES TO INDEPENDENT PRACTICE

After introducing content in small steps, supported through models and guided instruction, Mr Andrews now needs to get his pupils to practise independently. How should he organise and ‘space’ this practice over time?

- > Spacing practice over time (or ‘distributing’ it) makes learning feel harder but improves pupils’ retention because they have to think harder about it (Dunlosky et al., 2013).
- > Assuming pupils are getting questions right, teachers can increase the intervals between practice (Dunlosky et al., 2013).

Mr Andrews should be intentional in not just how he spaces practice but what he includes in practice. He should consider not just what he has recently taught but also supporting pupils to master challenging content which builds towards long term goals. Therefore, pupils should practise skills and knowledge from previous weeks and months. He can increase the challenge by removing scaffolding, lengthening spaces or introducing interacting elements, for example a more complicated problem where one step relies on a previous step.

While practice matters, “not all practice is equivalent” (Deans for Impact, 2015). Setting up pupils for independent practice might involve Mr Andrews giving his pupils a set of problems to solve but it could also involve teaching them to self-quiz. Testing is among the most effective techniques for supporting pupils to remember what they have learned (Pan et al., 2018). Retrieval is also more effective than other independent study activities such as re-reading and highlighting (Dunlosky et al., 2013) because it requires pupils to think hard.

NUANCES AND CAVEATS

While increasing time gaps between practice is beneficial for learning, this is not always practical. It depends how long pupils need to recall this information for. For example, to remember something for one week, practice should be spaced 12 to 24 hours apart. Whereas, to remember something for five years, practice should be spaced 6 to 12 months apart (Dunlosky et al., 2013).

Lots of practice at once (cramming) can be effective if pupils know very little and want to pass an exam – however, this is not an appropriate strategy if we want them to remember these ideas the following year or beyond.

Homework might be a good opportunity for further practice of what has been learnt in class. Homework can improve pupil outcomes, particularly for older pupils, but it is likely that the quality of the homework and its relevance to main class teaching is more important than the amount set (EEF, 2018)

SELECT

Before you observe, first select a **DEVELOPMENT AREA** to focus on. Next, familiarise yourself with the **FOCUSED DEVELOPMENT AREAS**, as you will zoom in on one of these during your observation. Finally, craft a **PRECISE TARGET** when you observe your teacher (examples are provided below).

DEVELOPMENT AREA	FOCUSED DEVELOPMENT AREA	EXAMPLE PRECISE TARGETS
Independent practice	<ul style="list-style-type: none"> > Teacher designs an independent practice task that enables pupils to apply the knowledge and skills that have been taught in the lesson, ensuring pupils are stretched and supported. > Teacher gives specific, manageable and visible instructions for the independent practice and the conditions in which the practice is to be carried out, checking pupils have understood the instructions before they begin. > Teacher is purposefully circulating to check whether the pupils are meeting their academic expectations for the independent practice and capturing important information on what pupils are understanding and not understanding. 	<p>If your teacher is...</p> <ul style="list-style-type: none"> > Not doing it at all: Review the key knowledge and skills you will be covering in a lesson and plan an independent practice task that enables pupils to apply these. > Doing it but needs some improvement: Plan an independent practice task that enables pupils to apply the knowledge and skills from the lesson and plan to deliver a brief explanation of the steps that pupils can take and resources they can use to support them to apply the key knowledge and skills. > Doing it well, but needs some stretch: Review an independent practice task that enables pupils to apply the knowledge and skills from the lesson and plan to ensure pupils will be stretched by the content and nature of the task.
Fluency, success and challenge	<ul style="list-style-type: none"> > Teacher designs independent practice so that pupils successfully develop fluency and build towards mastering challenging content. > Teacher identifies pupils who require extra support during the practice task and responds to that need. > Teacher normalises practising until fluent and shows pupils how to gauge when they are ready for more challenging tasks. 	
Spacing practice over time	<ul style="list-style-type: none"> > Teacher plans in opportunities for pupils to practise retrieving key information across lessons. > Teacher allows sufficient time in between retrieval tasks so that pupils have time to begin forgetting the material they are being asked to retrieve. > Teacher gradually reduces the amount of scaffolding that pupils receive with each repeated practice, enabling pupils to apply more effort. 	

RECORD YOUR THINKING HERE

DEVELOPMENT AREA	FOCUSED DEVELOPMENT AREA	EXAMPLE PRECISE TARGETS
(select before observing)	(select whilst observing)	(select/write whilst observing)

OBSERVE

Consider the following questions based on a short (approximately 15 minute) observation of your teacher.

What was your teacher's **previous** target? Are they meeting it? How do you know?

For the **DEVELOPMENT AREA** you are focussing on for this observation, what is your teacher already doing well?

Next, go to the previous page and select a **FOCUSED DEVELOPMENT AREA** to further zoom in on. Then select (from the examples) or write one **PRECISE TARGET** (bite-sized action) to coach your teacher on. You can choose to stick with the previous target if your teacher have not made enough progress yet.

How will you model the target to your teacher to show them what good looks like? What questions will you ask to check your teacher understands the model? For example, 'How it is different from your current practice?', 'What impact might it have on your practice and pupils?', 'What links can you see between the model and the module principles (below)?'

Reminder: Your model should help your teacher develop their ability in some of the following:

- > Balance exposition, repetition, practice and retrieval of critical knowledge and skills,
- > Plan regular review and practice of key ideas and concepts over time.
- > Design practice, generation and retrieval tasks that provide just enough support so that pupils experience a high success rate when attempting challenging work.
- > Use retrieval and spaced practice to build automatic recall of key knowledge.
- > Break tasks down into constituent components when first setting up independent practice.
- > Plan activities around what you want pupils to think hard about.

Next, meet with your teacher to work through the 'Feedback' stage of instructional coaching. See the guidance on the feedback stage in the appendices of the Mentor Handbook for support.

REFERENCES

- Coe, R. (2013). *Improving Education: A triumph of hope over experience*. Centre for Evaluation and Monitoring. <http://www.cem.org/attachments/publications/ImprovingEducation2013.pdf>.
- Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014). *What makes great teaching: Review of the underpinning research*. Durham University: UK. <http://bit.ly/2OvmvKO>.
- Deans for Impact (2015). *The Science of Learning* [Online] <https://deansforimpact.org/resources/the-science-of-learning/>.
- Dunlosky, J., Rawson, K. A., Marsh, E. J., Nathan, M. J., & Willingham, D. T. (2013). Improving students' learning with effective learning techniques: Promising directions from cognitive and educational psychology. *Psychological Science in the Public Interest, Supplement*, 14(1), 4–58. <https://doi.org/10.1177/1529100612453266>.
- Lemov, D. (2015). *Teach Like a Champion 2.0* (2nd ed.). San Francisco: Jossey-Bass.
- Pan, S. C., & Rickard, T. C. (2018) Transfer of test-enhanced learning: Meta-analytic review and synthesis. *Psychological Bulletin*, 144(7), 710–756. <https://doi.org/10.1037/bul0000151>.
- Roediger, H. L., & Butler, A. C. (2011) The critical role of retrieval practice in long-term retention. *Trends in Cognitive Sciences*, 15(1), 20–27. <https://doi.org/10.1016/j.tics.2010.09.003>.
- Rosenshine, B. (2012) Principles of Instruction: Research-based strategies that all teachers should know. *American Educator*, 12–20. <https://doi.org/10.1111/j.1467-8535.2005.00507>
- Sweller, J. (2016). Working Memory, Long-term Memory, and Instructional Design. *Journal of Applied Research in Memory and Cognition*, 5(4), 360–367. <http://doi.org/10.1016/j.jarmac.2015.12.002>.
- Willingham, D. T. (2009). *Why don't students like school?* San Francisco, CA: Jossey Bass.