

ECT:
**CLINIC 2:
THINKING HARD**

Participant Workbook

**KEEP
GETTING
BETTER**

Name:

Session date:

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Optional pre-reading

Pupil thinking

Teaching challenge

Ms Singh wants to ensure all her pupils are engaged when she asks pupils questions. However, she has found that it is often the same pupils who answer her questions. When she picks other pupils, they often struggle to provide developed answers or just respond that they don't know. What might Ms Singh do to address this challenge?

Key idea

Teachers need to provide pupils with opportunities for all pupils to engage in responding to tasks, as well as think deeply about key learning. Teaching should be focused on what pupils need to think hard about and model to pupils what effective thinking in written and spoken forms looks and sounds like.

Evidence summary

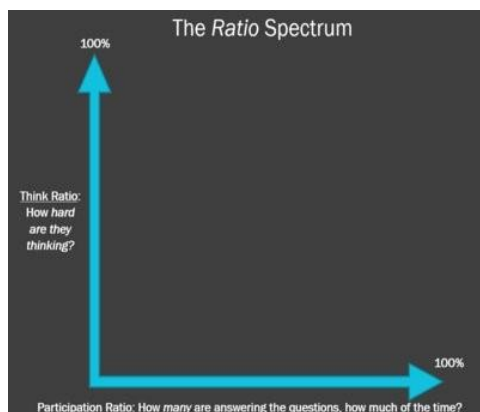
Participation ratio

When Ms Singh asks her pupils a question, she wants all pupils to be able to answer the question. In other words, she wants to ensure a high ratio of pupils are engaging in the learning and responding to her questions. If Ms Singh teaches a definition of pollination and then asks a question about what pollination is but only a fifth of her class put their hands up, the participation ratio is low. This could be due to a variety of factors; some pupils may not have understood what pollination is, some pupils may not have been listening when she gave her initial definition, and some may be afraid to get the answer wrong. For Ms Singh to gauge what her pupils have or have not understood about pollination, she needs her whole class to participate. She needs the participation ratio to increase. However, it is not enough to just have her pupils participating if they are not thinking deeply about what they are learning.

Pupils are only able to learn what they think about. As Rob Coe (2013) states, "Learning happens when people have to think hard." The more pupils think about something, the more likely they can remember it. Ms Singh wants all her pupils to engage in deep thinking around what they are learning so that this knowledge can be stored in long-term memory. She wants the "ratio" (Lemov, 2015) of pupil participant and thinking to be high.

Thinking ratio

Thinking and knowledge are interlinked. For example, pupils cannot think about pollination if they don't have prior knowledge around how insects interact with plants. They need to use their prior knowledge to make sense of and think about new learning. Ms Singh needs to ensure that she is teaching her pupils this key knowledge and that her teaching is focusing on what she wants her pupils to think hard about. The ratio of thinking and participation can be thought of in the following way:



Adapted from Doug Lemov. 2015. Teach Like a Champion 2.0

Ratio through questioning

In order to support her pupils to focus on key learning, Ms Singh wants to ensure that the questions she poses to pupils are focused on the key learning and, when appropriate, allows pupils to reflect deeply about what they are learning. For example, Ms Singh wants pupils to think deeply about pollination. She wants *all* pupils to be thinking about this. To ensure that all pupils are thinking about pollination, she adopts the “cold call” strategy (Lemov, 2015). This strategy could involve insisting that pupils not put their hands up but instead ask all pupils a question, give them time to process the question and reflect on their response, before then asking a specific pupil to give their response. For example, Ms Singh could ask: “Why is pollination important [pause for 10 seconds], Lisa?” Ms Singh asks the question and then says the name of the pupil so while she is pausing, all pupils are hopefully engaged in thinking about the importance of pollination as anyone could be called upon to answer. Ms Singh would need to explain this approach to her pupils before rolling it out in the classroom. Otherwise she risks making the pupils feel singled out and may not feel comfortable answering questions in this way.

When Ms Singh is planning the questions to get pupils to think hard about what they are learning, she needs to provide time for her pupils to process the question, reflect on the question and prepare a response (Pashler et al, 2007). Providing pupils with enough time or “wait time” (Lemov, 2015) is important if Ms Singh wants pupils to give their best response. If she doesn’t give this time, it may be that pupils give an immediate answer, but it is less likely that the response will be well thought through.

Increasing ratio to develop literacy

Ms Singh wants her pupils to be able to confidently and effectively articulate their deep thinking both orally and in written form as she knows that developing pupils’ literacy skills is key to their success in all subjects and is linked to positive outcomes, beyond their school careers. Developing pupils’ literacy is the responsibility of all teachers, not just the literacy lead or English specialists. Ms Singh is therefore responsible for helping her pupils develop literacy skills. There are several ways in which Ms Singh can increase the ratio in her class, as well as support her pupils to develop their literacy skills.

Ratio through writing

Another strategy which Ms Singh may want to adopt is having all pupils write down their reflections before asking them to discuss their responses. This strategy, “Everybody writes” (Lemov, 2015), increases both participation and thinking ratio as pupils have the time to engage in deeper thinking by putting their thoughts on paper and reflecting on how they can articulate their thoughts before having to speak.

The strategy will look different depending on what is being taught, the age of pupils and the subject. For example, Ms Singh may want to use this strategy when she is checking for pupils’ understanding of how to spell

a particular word, like “pollination”. In another instance, she may also use the strategy when she wants pupils to engage in deep thinking around a challenging question, for example, “why is pollination important”?

Modelling writing to develop pupil thinking

Ms Singh wants her pupils to be able to articulate and express their thoughts through their writing. Even if they have the required background knowledge (for example, they know what pollination is and why it is important), they may not have the literacy skills to express these thoughts on paper. Ms Singh therefore needs to model what effective writing looks like. Modelling what effective writing looks like particularly benefits lower attaining pupils (Hollingsworth and Ybarra, 2017). Modelling thought processes which underpin the written work supports pupils who are new to an area of learning to develop their mental models of how to write effectively in different forms.

In order to develop pupils’ thinking, Ms Singh wants her pupils to be able to articulate their knowledge in a way which can be applied to different contexts and audiences. There are different forms of writing and pupils need to learn how to modify their writing based on their audience and the purpose of what they are writing. When Ms Singh is planning how to introduce a written text on pollination, she will want to consider which form of writing she is modelling and draw pupils’ attention to this particular form. She may want to consider the following forms of writing to inform how she will introduce and model a piece of writing.

Genre	Example Forms
1. Narrative	> Story, poetry, fable, myth
2. Recount	> Journal, diary, newspaper article, event recount
3. Information report	> Historical report, scientific report
4. Procedure	> Instructions, procedural recount, recipe, directions
5. Persuasion	> Advert, discussion, letter, newspaper article
6. Explanation	> Scientific writing, spoken presentation

In this context, Ms Singh may choose for her pupils to narrate a story of a bee who as they make their journey around flowers as a way of consolidating pupil understanding around pollination.

Ratio through speaking

Ms Singh also wants her pupils to be able to articulate their deep thinking orally. Good oral language skills also help pupils to write better by; improving their thinking and learning, improving the structure of their writing and improving their vocabulary (EEF, 2018). Just as she models the writing process to her pupils, Ms Singh also needs to model what high quality classroom talk looks like. She needs to consider what key vocabulary she will need to explicitly teach so that pupils are equipped with the vocabulary to articulate their thoughts. She will also want to model what high quality language sounds like whenever she interacts with pupils, either one to one or as a whole class. Ms Singh may consider using some of the techniques below to model high quality interactions with her pupils:

Technique	Example
• TUNING IN	listening carefully to what is being said and observing what the pupil is doing
• SHOWING GENUINE INTEREST	giving whole attention, eye contact, and smiling and nodding
• ASKING PUPILS TO ELABORATE	'I really want to know more about this'
• RECAPPING	'So you think that...';
• GIVING THEIR OWN EXPERIENCE	'I like to sketch at home';
• CLARIFYING IDEAS	'So you think we should cook this for longer?';
• USING ENCOURAGEMENT TO EXTEND THINKING	'You have thought really hard about this, but what can you do next?'
• SUGGESTING	'You might want to try doing it like this'
• REMINDING	'Don't forget that you said about cooking it for longer'
• ASKING OPEN QUESTIONS	'How did you?', 'Why does this...?', 'What happens next?'

When Ms Singh wants her pupils to discuss their thinking with one another, she also needs to plan carefully what that high-quality classroom talk looks like. She needs to provide scaffolds (for example, sentence starters) for pupils to support pupils to focus on the key learning and use high quality language in their discussions. She may want to consider modelling how she expects pupils to talk to one another so that all pupils are clear about what high quality dialogue sounds like.

Further information on how Ms Singh could develop her pupils' literacy skills is explored in the self-study materials for clinic 5.

Nuances and caveats

When introducing the "cold call" strategy, it is important for teachers to explain the rationale and frame this purpose in a way which ensures that the pupils know that anyone can be called upon and that it is a method to help the teacher identify what pupils know and don't know, not a strategy to single out or discriminate a pupil.

The way in which the "Everybody Writes" strategy is adopted would depend on the overall purpose of the task (for example, level of challenge you would plan for your pupils depends on your context, on the needs of your pupils and their prior knowledge of what you are teaching). The amount of time provided for pupils to respond to a question or statement will depend on the difficulty of the question being asked.

Key takeaways

- Pupils need prior knowledge to engage in deep thinking around a topic.
- 'Every teacher is a teacher of English': literacy can and should be explicitly taught in every subject, supported by whole-school approaches.
- Modelling matters: modelling is an important tool in teaching literacy and developing pupils' thinking.
- Pupils need enough knowledge, guidance and thinking time to produce quality answers.

Further reading

Lemov, D. (2015). *Teach Like a Champion 2.0: 62 Techniques that Put Students on the Path to College*. John Wiley & Sons.

References

Coe, R. (2013). *Improving education: A triumph of hope over experience*. Durham, United Kingdom: Durham University: Centre for Evaluation and Monitoring.

Lemov, D. (2015). *Teach Like a Champion 2.0: 62 Techniques that Put Students on the Path to College*. John Wiley & Sons.

Education Endowment Foundation (2018) *Preparing for Literacy: Improving Communication, Language and Literacy in the Early Years'*, London: Education Endowment Foundation.

Hollingsworth, J. R., & Ybarra, S. E. (2017). *Explicit direct instruction (EDI): The power of the well-crafted, well-taught lesson*. Corwin Press.

Teaching problem

In today's session, we will consider the following typical teaching problem:

How can teachers support all pupils to think hard during whole class, group and paired discussions?

Paired discussion

Task: In your pair, discuss the following:

Reflect on your experience of supporting all pupils to think hard during whole class, paired and group discussions so far.

Questions:

- > What did you do to support **all** pupils to think hard?
- > What did you feel was successful about these discussions?
- > What challenges did you experience when setting up and facilitating these discussions?

Notes:

The processes we most hope to engender in our students-thinking critically and logically-are not possible without background knowledge.

Willingham (2009)

What are underlying features?

Underlying features are the components of an approach that can be applied across all subjects, phases or settings. They serve as a guide for what good practice is likely to look like.

Underlying features in this clinic

Underlying Feature	Description
Establish and maintain culture	Establish a positive classroom environment, where making mistakes and learning from them is encouraged. All pupils should feel confident sharing their own, and developing and challenging others', views.

Consider purpose and timing	Identify what pupils need to think hard about and where this fits into their wider learning journeys, including ensuring that they have the relevant subject knowledge. Consider the placement of the activity within the lesson and the wider curriculum.
Plan and scaffold	Carefully consider the full range of pupil needs and prior knowledge and establish what scaffolding is needed to support all pupils to think hard. Ensure that prior knowledge has been activated.
Monitor and adapt	Ensure that all pupils are involved and consider how to establish whether hard thinking is taking place. Identify where additional support or challenge is needed, where relevant.

I Do

Task: Read the scenario.

Scenario 1

'I Do' scenario

Mr Oliver is a secondary history teacher. This year, he has been using cold call with all his classes. This strategy has effectively helped build a culture of participation within each group; however, Mr Oliver feels that it is sometimes less successful when questions are more challenging. For instance, some pupils will say that they 'don't know' or are 'unsure' when called upon, even though Mr Oliver is confident that they do have the knowledge needed to answer.

Mr Oliver discusses this issue with his mentor, who suggests that some pupils may find the more exploratory questions overwhelming. His mentor recommends introducing a period of wait time after certain questions, which will give pupils the opportunity to organise their thoughts before responding. Mr Oliver reflects that whilst he does regularly use this strategy during retrieval activities, he does not use it in other contexts.

Mr Oliver decides to use a combination of wait time and probing questions with year 9. His class have been studying women's suffrage and, having learnt about the different approaches of the suffragists and suffragettes, are now preparing to complete a piece of writing comparing the effectiveness of each campaign. Mr Oliver will use a carefully facilitated class discussion to support pupils to generate ideas, before moving on to written planning. He knows that this task will require pupils to think hard about - and make new connections between - the knowledge they have built over the past few weeks.

At the beginning of the lesson, pupils complete a retrieval activity which requires them to recall the key details of each group and their campaigning methods. Mr Oliver then introduces the next task:

*I can see from our first activity that we are all able to confidently recall the methods employed by the suffragettes and suffragists during their campaigns. We are now going to take a moment to reflect on a question which requires a lot of thought. I would like you to consider which of the two campaigns was **most** effective in winning women the vote. Remember that you will need to justify your ideas. Some of you might find the key vocabulary on the board helpful when considering this question. I will give you 15 seconds to gather your thoughts in silence.*

Mr Oliver pauses and silently but obviously surveys the room to check that pupils are following instructions. He then alerts the class to their final few seconds of thinking time. He will start by calling on a pupil who has previously been less confident responding to this sort of question.

Mr Oliver: I am going to give you a few more seconds so that everyone has a chance to deeply consider their response. When you are ready, please raise your hand.

Mr Oliver requests that pupils raise their hands when they are ready. Though he plans to use cold call, he knows that this will give him some idea of how many pupils feel able to respond.

Mr Oliver: Thank you for raising your hands. You can now put them down. So, which of the two campaigns do we think was most effective in winning women the vote... Orla?

Orla: I think the suffragette campaign was more effective as they were more radical and they created more publicity for the cause.

Mr Oliver: Well done, Orla. It's great that you have provided a clear justification for your opinion. I also like how you have incorporated the vocabulary on the board into your response. Can you explain a little further what you mean by 'radical'?

Orla responds with an example of radical behaviour and explains that this gained more mass support for the cause. Mr Oliver knows that many pupils will have prepared the same idea. He therefore uses questioning to develop this avenue of thinking. This time, he asks a pupil he feels is ready for further challenge.

Mr Oliver: Can we think of any other ways in which we might argue that the suffragette campaign was more effective [pause]... Aaliya?

Aaliya responds with an additional idea and justification.

Mr Oliver: That's great, I agree. Of the factors Orla and Aaliya have discussed, which do we think had the greatest impact on the suffragette campaign? I'll give you 10 seconds to gather your thoughts.

Questions:

- a. Where can you see the underlying features in the scenario?
 - Establish and maintain culture
 - Consider purpose and timing
 - Plan and scaffold
 - Monitor and adapt
- b. What impact do these features have on the teacher's ability to support pupils to think hard?

Task: Take notes while the facilitator models how the underlying features appear in the first scenario.

Underlying feature	Response/suggestion
Establish and maintain culture	
Consider purpose and timing	
Plan and scaffold	
Monitor and adapt	
Other notes:	

We Do

Read and analyse

Underlying features for scenario 2 and 3

The underlying features you need to have in mind as you read these scenarios are below. They are the same as for scenario 1:

Underlying Feature	Description
Establish and maintain culture	Establish a positive classroom environment, where making mistakes and learning from them is encouraged. All pupils should feel confident sharing their own, and developing and challenging others', views.
Consider purpose and timing	Identify what pupils need to think hard about and where this fits into their wider learning journeys, including ensuring that they have the relevant subject knowledge. Consider the placement of the activity within the lesson and the wider curriculum.
Plan and scaffold	Carefully consider the full range of pupil needs and prior knowledge and establish what scaffolding is needed to support all pupils to think hard. Ensure that prior knowledge has been activated.
Monitor and adapt	Ensure that all pupils are involved and consider how to establish whether hard thinking is taking place. Identify where additional support or challenge is needed, where relevant.

Task: Read both of the following scenarios.

Scenario 2

Mr Biernat is a year 4 teacher. In mathematics this term, his class have been learning about the properties of shapes. Pupils have already covered the properties of 2D and 3D shapes, including concepts such as parallel lines, diagonals and equal sides and angles. This lesson, Mr Biernat would like pupils to further consolidate this knowledge, as well as deepen their understanding of geometrical reasoning. As he has also been working on improving pupils' quality of talk, Mr Biernat has therefore designed a task in which pupils will work in pairs to discuss the validity of a pre-prepared statement.

Mr Biernat begins the lesson with a retrieval activity prompting pupils to review some of the key vocabulary he would like them to use during the justification activity. These words will then be projected on the board to support pupils with their discussion.

After this, Mr Biernat delivers the following instructions:

Mr Biernat: This lesson, we are going to complete a justification activity in pairs. I will project a statement on the board; you will then decide whether the statement on the card is true or false. You will have two minutes to consider the statement by yourself, using your mini whiteboards to make notes and test your hypothesis. Then, you will have two minutes to share your ideas with a partner. When considering the statement, you should look for counter examples or reasons that it is true. The key words we have just revised are also on the board. If you are not sure how to get started, there are some 'hint' cards in the boxes on your desks. Please think really hard before you take one of these. Off you go.

Statement: Triangles always have a line of symmetry

Word bank: irregular, regular, symmetry, equilateral, isosceles, scalene

Mr Biernat circulates the room. He knows that some pupils may only think to consider one type of triangle (an equilateral) in relation to the statement, so is particularly looking out for this as he surveys their mini whiteboards. When he sees that this is the case for a couple of pupils, he prompts them to collect a hint card, which will prompt them to consider other types of triangles.

Mr Biernat: I can see some excellent thinking in evidence on your whiteboards. You have 30 more seconds before turning to your partner to share your thoughts. [Pause for 30 seconds] Ok, pause there and eyes on me. You are now going to share your ideas with your partner. The person with the longer hair will go first. As always, remember to listen carefully to your partner and wait patiently until they are finished before you ask follow-up questions. Our guidelines for paired talk are displayed at the front, if you need a reminder.

Again, Mr Biernat circulates the room. After a minute of listening, he notices that some pairs are not fully justifying their decisions.

Mr Biernat: Well done on your conversations so far. I can hear some interesting hypotheses. Remember that you need to clearly justify any decisions you come to. I should be able to hear the word 'because' in your discussions.

He waits for 30 seconds, then gives pupils a time check.

Mr Biernat: You have 30 more seconds. As you finish your discussions, you will need to decide who will summarise your thinking when we feedback as a class. As always, I will be using cold call.

Scenario 3

Mrs Perera's year 8 English class are mid-way through a unit on identity poetry. Next lesson, they will be studying their fourth poem.

This year, Mrs Perera has been using a combination of cold call and elaborative interrogation to ensure that she is both encouraging all pupils to participate and supporting them to think hard about the key ideas they are covering. As a result, engagement during class discussions has been high and pupils have been increasingly happy taking the risk to share more tentatively formed ideas. In recent lessons, however, Mrs Perera has noticed that not all pupils are engaging in the same depth of thinking during group activities.

Mrs Perera knows that group work provides an opportunity for high quality talk, which helps pupils to articulate ideas and consolidate learning. Currently, however, she can see that group discussions are often dominated by one or two pupils. She therefore feels that a more structured approach is needed, to ensure that all pupils are participating and thinking hard.

In the lesson, Mrs Perera starts by introducing the key question for the lesson ('how does the poet present the speaker's feelings and attitudes on her identity?') and establishing a basic understanding of the poem. Pupils have already explored the theme of identity in three other poems and are therefore able to draw out some common ideas. Mrs Perera organises pupils into pre-prepared groups of three and labels them A, B and C. She then sets up the group analysis task.

On your stanza, you will see that I have highlighted three quotations and labelled them with the letters A, B and C. Each group member will take primary responsibility for the quotation attached to their letter. Each of you will have a chance to be the 'analyser' and the 'questioner'. For example, when discussing quotation A, person B and person C will ask person A questions about their quote. After three minutes, Person B will become the analyser. The questions are open-ended and have been designed to encourage you to talk in depth about each quotation. There

are also follow up prompts for each question, if you think the analyser could stretch their thinking even further. Remember that you can also refer to your emotions wheel and terminology list.

Question	Follow up prompts
How do you think the speaker is feeling at this point of the poem?	Can you say more about that? Why might she feel this way?
...	...
...	...

During the discussion, Mrs Perera circulates the room. She makes a note of interesting ideas so that she can draw these out during the subsequent whole-class feedback discussion. When she notices a pupil struggling for things to say, she offers suggested prompts to the two questioners in the group. Similarly, when she hears particularly insightful ideas, she prompts the questioners to ask more challenging questions, outlined in the 'follow up prompts'.

Task: Respond to the following questions independently.

<p>Question</p> <p>a. Where can you see the underlying features in the scenarios?</p> <ul style="list-style-type: none"> • Establish and maintain culture • Consider purpose and timing • Plan and scaffold • Monitor and adapt <p>b. What impact do these features have on the teacher's ability to support pupils to think hard?</p>

Underlying feature	Response/suggestion
Establish and maintain culture	
Consider purpose and timing	

Plan and scaffold	
Monitor and adapt	
Other notes:	

Task: share in pairs.

Notes:

Task: share with the group.

Notes:

Reflect and record: Take a few minutes to reflect on the group discussion and record your final thoughts on scenarios 2 and 3.

Notes:

Option A: Non-example

Read and analyse

Underlying features for scenario 4

The underlying features you need to have in mind as you read these scenarios are below. They are the same as the previous scenarios:

Underlying Feature	Description
Establish and maintain culture	Establish a positive classroom environment, where making mistakes and learning from them is encouraged. All pupils should feel confident sharing their own, and developing and challenging others', views.
Consider purpose and timing	Identify what pupils need to think hard about and where this fits into their wider learning journeys, including ensuring that they have the relevant subject knowledge. Consider the placement of the activity within the lesson and the wider curriculum.
Plan and scaffold	Carefully consider the full range of pupil needs and prior knowledge and establish what scaffolding is needed to support all pupils to think hard. Ensure that prior knowledge has been activated.
Monitor and adapt	Ensure that all pupils are involved and consider how to establish whether hard thinking is taking place. Identify where additional support or challenge is needed, where relevant.

Task: Read the following scenario.

Scenario 4

Mr Oliver is a secondary history teacher. This year, he has been using cold call with all his classes. This strategy has effectively helped build a culture of participation within each group, but Mr Oliver feels that it is sometimes less successful when questions are more challenging. For instance, some pupils will say that they 'don't know' or are 'unsure' when called upon, even though Mr Oliver is confident that they do have the knowledge needed to answer.

Mr Oliver discusses this with his mentor, who suggests that some pupils may find the more exploratory questions overwhelming. His mentor recommends introducing a period of wait time after certain questions, which will give pupils the opportunity to organise their thoughts before responding. Mr Oliver reflects that whilst he does regularly use this strategy during retrieval activities, he does not use it in other contexts.

Mr Oliver decides to use a combination of wait time and probing questions with year 9. His class have been studying women's suffrage and, having learnt about the different approaches of the suffragists and suffragettes, are now preparing to complete a piece of writing comparing the effectiveness of each campaign. Mr Oliver knows that this task will require pupils to think hard about - and make new connections between - the knowledge they have built over the past few weeks.

In the lesson, Mr Oliver then introduces the task:

*During our last few lessons, we have been learning about the methods employed by the suffragettes and suffragists during their campaigns. In today's lesson, we are going to answer a question which requires a lot of thought: 'which of the two campaigns was **most** effective in winning women the vote?'. We will start by discussing our ideas as a class. I will give you 10 seconds to gather your thoughts in silence before we do so.*

Mr Oliver pauses and silently but obviously surveys the room to check pupils are following instructions. He then alerts the class to their final few seconds of thinking time. He will start by calling on a pupil who has previously been less confident responding to this sort of question.

Mr Oliver: I am going to give you a few more seconds so that everyone has a chance to deeply consider their response. When you are ready, please raise your hand.

Mr Oliver requests that pupils raise their hands when they are ready. Though he plans to use cold call, he knows that this will give him some idea of how many pupils feel able to respond.

Mr Oliver: Thank you for raising your hands. You can now put them down. So, which of the two campaigns do we think was most effective in winning women the vote... Orla?

Orla: I think the suffragette campaign was more effective as they were more active.

Mr Oliver: Well done, Orla. Well done for starting to provide a justification for your opinion. Can you explain what you mean by more 'active' and why you think this was important?

Orla: The suffragettes did things like going on hunger strike.

Mr Oliver: That's right. Any can you explain why an action like going on hunger strike was effective?

Orla: I guess it was just more extreme.

Mr Oliver: That's certainly true. Can anyone expand on Orla's idea here... Aaliya?

Aaliya: As Orla said, the actions of the suffragettes were more extreme, which meant that they gained more publicity. They were able to gather support from a mass audience.

Mr Oliver: That's right.

Mr Oliver knows that many pupils will have prepared the same idea. He therefore uses questioning to develop this avenue of thinking with the rest of the class. This time, he asks a pupil he feels is ready for further challenge.

Task: Respond to the following questions independently.

Questions:

- A. Which of the underlying features are not present in the scenario? (There may be one or multiple)
- Establish and maintain culture
 - Consider purpose and timing
 - Plan and scaffold
 - Monitor and adapt
- B. How does the absence of these features impact the teacher's ability to support pupils to think hard?

Task: share in pairs.

Notes:

Task: share with the group.

Notes:

Reflect and record

Take a few minutes to reflect on the group discussion and record your final thoughts on scenario 4.

Notes:

Option B: Practice task**Practice task****Task:**

- > Identify an upcoming lesson when which you would like pupils to think hard during a whole class, group or paired discussion.

Reflection:

Establish and maintain culture: establish a positive, predictable and safe classroom environment, where making mistakes and learning from them is encouraged. All pupils should feel confident sharing their own, and developing and challenging others', views.

Reflection:

- > What are the strengths of your classroom environment? (Secondary teachers may wish to focus on the class relevant to the lesson they have identified.)
- > What challenges do you still face in ensuring a positive, predictable and safe classroom environment?

Notes:

Action planning

- > Within the lesson you have chosen, focus on the discussion activity you would like to facilitate.
- > Use the prompts below to guide your planning of this activity. This may involve thinking about multiple parts of the lesson.

Underlying features

Underlying feature:	Prompt questions:
Consider purpose and timing	<ul style="list-style-type: none"> > What would you like pupils to know or be able to do by the end of the lesson? > What is the purpose of the whole class, group or paired discussion? What do you need pupils to think hard about? How will it support pupils to achieve the lesson aims? > What prior knowledge do pupils need to think hard during this discussion?
Plan and scaffold	<ul style="list-style-type: none"> > What will your discussion or group or paired activity look like? > How will you sequence the lesson to ensure that pupils can succeed in thinking hard during the activity? For example, what prior knowledge do you need to activate and when and how will you do this?

	<ul style="list-style-type: none"> > How will you ensure that <i>all</i> pupils are thinking hard during the activity? (Consider both support and stretch.)
Monitor and adapt	<ul style="list-style-type: none"> > How will you monitor or assess whether pupils are thinking hard? What will this look like? > Can you anticipate any aspects of the task that pupils might find challenging? How will you adapt if this is the case? > You might find it helpful to plan your follow up questions, scaffolds, helpful hints etc.

Planning notes

Underlying feature:	Notes:
Consider purpose and timing	
Plan and scaffold	
Monitor and adapt	

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Reflection

- > Of the underlying features we have looked at today, which do you already feel most confident with?
- > Which underlying features do you find more challenging and why?
- > What are your next steps in response to this clinic? What or who will support you to achieve these?

Notes:

Option C: I Do (2)

I do (2)

Task: Read the scenario.

Scenario 5

Mrs García is a secondary Spanish teacher. She has worked hard to build the confidence of her year 7 pupils when contributing ideas during class discussion. As a result, Mrs García has noticed that when she does choral repetition with the class, or asks relatively simple, closed questions, pupil participation tends to be high. However, Mrs García has also noticed that when pupils are asked more complex questions, which require them to think hard, or to take a risk when responding, she often sees the same hands being raised. When using cold call in these situations, pupils sometimes respond with "I'm not sure".

Mrs García's year 7 class are currently studying a unit called 'My Life'. Pupils have spent the last three weeks looking at the vocabulary and grammar structures needed to describe their daily routines. They have been practising how to recognise these through listening and reading comprehension tasks, as well as through choral repetition and translation both to and from English and Spanish. Having secured this knowledge, Mrs García feels that pupils are now ready to independently apply the vocabulary and structures they have learnt to produce sentences that reflect their own free time activities.

In the lesson, Mrs García begins with a vocabulary retrieval activity. After this, she explains to pupils that she would like them to construct at least four sentences in answer to the following question:

“Qué haces en tu tiempo libre?” = “What do you do in your free time?”

Mrs García knows that pupils will need to think hard to complete this task. She therefore explains that before sharing their ideas as a class, pupils will first have 5 minutes to write down their ideas. She notes that this initial thinking and writing time should help pupils to feel more confident when it comes to articulating verbal responses.

To reduce cognitive load for pupils who are feeling less confident, Mrs García projects a vocabulary list on the board. She also projects a suggested framework which pupils may wish to use, should they get stuck: verb in present tense + adverb + opinion. For the two pupils who already speak Spanish at home, Mrs García provides the additional challenge of comparing the activities they carry out in their free time with those of their family and friends.

Mrs García then monitors the pupils as they write. She notices that one pupil is struggling to use the correct verb tense and so quietly prompts the pupil to look back at her work from the previous week. After a few minutes, Mrs García pauses pupils and reads a couple of the successful examples she has seen so far. She identifies the accurate use of vocabulary and grammar structures. She then tells pupils that they have two remaining minutes of preparation time. As she circulates, Mrs García is pleased to see that all pupils have written at least two sentences.

After two more minutes, Mrs García brings pupils back together for a class discussion. Here, she plans to cold call on pupils to explain their thinking. She will first call on some of the pupils who have previously been less forthcoming in this context. She will also use probing questions to extend and develop pupils' thinking when they are demonstrating some confidence with this task.

Questions:

- a. Where can you see the underlying features in the scenario?
 - Establish and maintain culture
 - Consider purpose and timing
 - Plan and scaffold
 - Monitor and adapt
- b. What difference do you think the underlying features make to the teacher's ability to support pupils to think hard?

Task: Take notes while the facilitator models how the underlying features appear in the first scenario.

Underlying feature	Response/suggestion
Establish and maintain culture	
Consider purpose and timing	
Plan and scaffold	
Monitor and adapt	
Other notes:	

Close

Reflections

- > Of the underlying features, which do you already use to help you support all pupils to think hard during whole class, paired and group discussions?
- > Which of the underlying features do you think would be useful to discuss with your mentor or another experienced colleague?

Record your next steps

Appendix

Alternative I Do (1)

Task: Read the scenario.

Scenario 6

Miss Wilkins is a reception teacher. It is early March and her children have recently been excitedly noticing the changes in the weather and environment during the transition from winter to spring. Miss Wilkins would like to use this interest to develop the children's recent learning on spatial reasoning and comparisons. She has prepared a patch in the outdoor play area, where the children will choose from a range of tools to plant some seeds and bulbs. They will need to consider which tool is appropriate for the size of hole they're creating and use the comparison vocabulary they have been working on – bigger, smaller, shorter, longer etc. - to explain their choices.

Miss Wilkins works with a small group of children to ensure that they feel confident talking about their choices. The activity has been designed to encourage the children to think hard about the resources they need to carry out their gardening. She knows that an important part of this thinking process is giving the children time to consider her questions and comments, rather than jumping in to offer answers or solutions. However, she will balance this carefully with ensuring that they are using the vocabulary of comparison to articulate their reasoning.

At the beginning of the activity, Miss Wilkins reminds the children that they will need to follow the rules of conversation they have practised throughout the year so far, such as taking turns when speaking, so that everyone has the time to think and contribute. Miss Wilkins also knows that one child in the group (child A) can find it challenging to self-regulate when she finds tasks difficult, so she sits next to her to offer support with this if needed.

Miss Wilkins: We need to make space for the seeds in the soil.

Child A: We need a hole!

Miss Wilkins: That's right. We need to dig a hole for our seeds and bulbs.

Child B: I'm using a spoon.

Miss Wilkins: I wonder what kind of hole that will make.

Child B: A little hole.

Child C: I want a big hole.

Miss Wilkins: We need different sized holes for the seeds and bulbs.

Child B: A spoon is better for seeds.

Miss Wilkins: I wonder why a spoon is better.

Child B: The seeds are smaller!

Miss Wilkins: That's right, the seeds are smaller than the bulbs.

Child A: My fork isn't working. *[Places fork down and folds arms.]*

Miss Wilkins: How frustrating that your fork is not working. Your fork has loosened the soil, but it hasn't made a hole. I wonder what else we could use. *[She waits.]*

Child A: I'll use a big spoon.

Miss Wilkins: That's a good idea. You're using a trowel, which is bigger than the spoon. I wonder whether your hole will be better suited to the seeds or the bulbs.

Child A: It's a bigger hole for the bigger bulbs.

Child C: I need a big spoon too.

Miss Wilkins: That's right. You need the trowel too to dig a hole for your big bulb.

Miss Wilkins notices that the final child in the group – Sam – has not yet contributed. She comments on his choice, knowing that this prompt will be less intimidating than a question.

Miss Wilkins: Sam's chosen to use a trowel too.

Sam: My grandad's got one at his allotment.

Miss Wilkins: Wow! I bet he's got lots of bigger tools to use there too.

Sam: Yes, he's got an even bigger spade!

Questions:

- a. Where can you see the underlying features in the scenario?
 - Establish and maintain culture
 - Consider purpose and timing
 - Plan and scaffold
 - Monitor and adapt
- b. What impact do these features have on the teacher's ability to support pupils to think hard?

Task: Take notes while the facilitator models how the underlying features appear in the first scenario.

Underlying feature	Response/suggestion
Establish and maintain culture	

Consider purpose and timing	
Plan and scaffold	
Monitor and adapt	
Other notes:	

Appendix

Alternative I Do (2)

Task: Read the scenario.

Scenario 7

Mr Lawes is a teacher in a complex needs school. He is teaching a class of pupils who are accessing the pre-formal curriculum, which is for pupils with complex learning, physical and sometimes medical needs. Many of the pupils are non-verbal and use signing, gestures and eye gaze to communicate.

Mr Lawes is supporting his pupils to think hard during their communication with him and other support staff. In particular, he wants to support pupils to express preferences, using their preferred form of communication.

Mr Lawes considers one of his pupils, Amir. Mr Lawes would like Amir to understand how he can make and communicate preferences using his body. While Amir can already communicate using gaze, Mr Lawes wants to support Amir to also be able to communicate preferences by tapping. He thinks this will make it easier for Amir to express a wider range of preferences, and with more people – meaning he is less likely to get frustrated when doing so. Mr Lawes recognises that Amir will need scaffolded support, broken-down into incremental steps, for a period of time before demonstrating this skill independently, so knows he needs to plan this process carefully.

To do so, Mr Lawes first asks the school's communication specialist, Ms Ogundeyi, to recommend any approaches to support Amir with this. Ms Ogundeyi recommends some apps that Mr Lawes could use, in due course, to help Amir to use tapping to express preferences. They agree that they first want Amir to learn how to tap accurately though. Amir enjoys watching videos on space, so Mr Lawes mentions that this could be a motivator. Ms Ogundeyi recommends an app whereby Amir would have to tap rockets, causing them to fly into space with an exciting visual and sound, as a way to introduce Amir to using his body to have an effect.

Mr Lawes plans to use this app in part of Amir's 1:1 communication lesson that he has each day. To introduce it with Amir, Mr Lawes sets up the app so that Amir can see the rockets. He then models pressing one of the rockets and models an excited response to the visuals and sounds. Mr Lawes signs and says to Amir that he pressed the rocket and made it fly. Mr Lawes models pressing another rocket to Amir. Mr Lawes then encourages Amir to do this by guiding his hand to the tablet. Amir touches the screen but does not touch a rocket. Mr Lawes praises Amir for touching the screen and signs to Amir to touch the rocket. Mr Lawes guides Amir's hand to the screen again. The second time, Amir touches a rocket and smiles at the flying rockets and noises. Mr Lawes continues to support Amir to tap rockets. To begin with Amir does not consistently hit the rockets but does consistently tap the screen. When he does tap a rocket he demonstrates he is excited. After several goes Amir begins to consistently tap the rockets, and is smiling and laughing throughout. Knowing that it is important for pupils to revisit and use ideas over time to support long-term learning, Mr Lawes recognises that Amir will need to keep practising this initial skill of accurate tapping in order to embed it and use it increasingly fluently. He therefore plans to revisit this activity several times over the coming weeks.

When Amir is regularly successful at accurately tapping, Mr Lawes decides to move onto the next step. He now wants Amir to begin to use this skill to communicate preferences. Mr Lawes introduces the next app Ms Ogundeyi recommended, which displays two images to Amir. Mr Lawes decides to use snack time as a concrete way to introduce this app, and the skill of tapping preferences. For example, at the start of snack time, Amir is shown two images of snacks, and he is encouraged to tap one of them. In the first instance, Mr Lawes guides Amir's hand to each option in turn, and is shown the corresponding snack. Mr Lawes then models pressing a choice, and getting the snack. Mr Lawes then signs for Amir to have a go. Amir taps both of the options, and so

Mr Lawes encourages him to choose one. Amir then chooses one snack. Given this is the first time Amir has used this method of communication, Mr Lawes confirms his preference by asking Amir to also use his gaze to choose one. Amir is then immediately given the chosen snack. Mr Lawes uses this app every snack time over the next few weeks, again to reinforce this idea with Amir, and to build Amir's confidence in tapping to communicate his preferences. Again, Amir responds positively to this app - every time he is given the opportunity to use it, he appears excited to make a choice and receive a snack.

In due course, Mr Lawes would like Amir to be able to use a third app to independently communicate preferences, such as which snack he would like. This is the app that Ms Ogundeyi and Mr Lawes think will significantly support Amir to communicate preferences in the long-term. This app allows users to tap icons to form sentences, such as to confirm choices and make requests, and will not require a teacher to pre-set two options. It will give Amir further autonomy to communicate a greater range of preferences with a greater range of people. Given Amir has developed his accuracy in tapping, and has begun to use this skill to select between two options, Mr Lawes is confident that Amir is now ready to move onto this next stage of the process.

Mr Lawes plans to introduce this app with Amir over the coming weeks and months. Given this is the most complex of the three apps, he decides to, at this stage, keep the range of choices that Amir can select from in the app limited. He also decides to focus Amir's attention on just choosing between these options, rather than constructing longer requests. He also asks to meet with Ms Ogundeyi in 4 weeks to review Amir's progress and motivation with using this app. At this point they will consider how to support and continue to develop Amir's ability to use this app to make and communicate choices in the day. For example, they anticipate that Amir may be ready to see a wider range of choices to choose from. Over the next few months, Mr Lawes and Ms Ogundeyi hope to incrementally scaffold Amir towards being able to communicate preferences throughout the day using the range of icons on the app.

Questions:

- a. Where can you see the underlying features in the scenario?
 - Establish and maintain culture
 - Consider purpose and timing
 - Plan and scaffold
 - Monitor and adapt
- b. What impact do these features have on the teacher's ability to support pupils to think hard?

Task: Take notes while the facilitator models how the underlying features appear in the first scenario.

Underlying feature	Response/suggestion
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Establish and maintain culture	
Consider purpose and timing	
Plan and scaffold	
Monitor and adapt	
Other notes:	

Alternative We Do (1)

Task: Read the scenario.

Scenario 8

Mr Biernat is a year 4 teacher in a specialist school for pupils with autism spectrum disorder (ASD). In mathematics this term, his class have been learning about the properties of shapes. Pupils' prior knowledge includes the properties of 2D and 3D shapes, including concepts such as parallel lines, diagonals and equal sides and angles. This lesson, Mr Biernat would like pupils to further consolidate this knowledge, as well as deepen their understanding of geometrical reasoning. Mr Biernat knows that reasoning can be a challenge for some of his pupils due to their communication and interaction needs so he has planned to scaffold the activity to support them to formulate an answer.

Mr Biernat begins the lesson with a retrieval activity prompting pupils to review some of the key vocabulary he would like them to use during the justification activity, such as 'irregular' and 'symmetry'. These words will then be projected on the board and available on individual word mats to support pupils.

Prior to beginning the activity Mr Biernat shows pupils the word 'justification' he asks pupils if they know what this word means. When no pupil offers an answer Mr Biernat defines 'justification' for pupils, and explains that he will model adding a justification to the following statement:

2D shapes with straight edges always have the same number of sides as lines of symmetry

Mr Biernat makes sure to demonstrate he is using the word 'because' when justifying his answer.

Due to the communication needs of the pupils Mr Biernat has provided a template for pupil responses in order to reduce the cognitive load and allow them to focus on their reasoning. This template includes a sentence starter and the word 'because'. Where writing can cause a rise in anxiety for some pupils, Mr Biernat has asked his support staff, prior to the start of the lesson, to work with those pupils and scribe their answers.

After this, Mr Biernat delivers the following instructions:

Mr Biernat: Now you are going to have a go at completing a justification activity. I will project a statement on the board; you will then decide whether the statement on the board is true or false. I have given some of you a template to write your answers and a whiteboard to test your hypothesis. Some of you will be working with an adult. The key words we have just revised are also on the board.

Statement: Triangles always have a line of symmetry

Word bank: irregular, regular, symmetry, equilateral, isosceles, scalene

Mr Biernat circulates the room. He knows that some pupils may only think to consider one type of triangle (an equilateral) in relation to the statement, so is particularly looking out for this as he surveys their answers so far. When he sees that this is the case for a couple of pupils, he provides them a hint card that prompts them to consider other types of triangle.

Mr Biernat monitors the class to consider how much more time the pupils need to complete their answers, where some have finished ahead of others he uses this opportunity to develop their communication skills by asking them to share their answers with each other.

Once Mr Biernat feels that pupils have had enough time to complete the activity, he welcomes pupils to volunteer their answers. To do so, he offers a choice of them reading it aloud themselves, an adult reading it for them, or sharing it with an adult only.

Task: Respond to the following questions independently.

Questions

- a. Where can you see the underlying features in the scenarios?
 - Establish and maintain culture
 - Consider purpose and timing
 - Plan and scaffold
 - Monitor and adapt
- b. What impact do these features have on the teacher's ability to support pupils to think hard?

Underlying feature	Response/suggestion
Establish and maintain culture	
Consider purpose and timing	
Plan and scaffold	
Monitor and adapt	

Other notes:

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