

Guidance

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Secondary National Strategy for school improvement

Leading in Learning: developing thinking skills in secondary schools

Key Stage 4 School training manual
(Feb 06 version)



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National Strategy
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Acknowledgements

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Journal of Staff Development for *Target Time Towards Teachers* by Linda Darling-Hammond (Spring 1999)

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The websites referred to in these materials existed at the time of going to print. Tutors should check all website references carefully to see if they have changed and substitute other references where appropriate.

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Note: For consistency, section headings correspond to those in the Key Stage 3 School training manual. It is not simple to adapt these stages of training to be scaled up into Key Stage 4 because the organisation of the curriculum at Key Stage 4 is quite different. Consequently, this version of the training manual (February 2006) does not contain sections 3–7. As more schools implement Leading in Learning at Key Stage 4, and experience grows, it is intended that training to support next steps will be added.

1 Introduction

This manual provides materials to support the training of teachers in the early stages of implementing the Leading in Learning programme at Key Stage 4. It complements the *Key Stage 4 Guide for school leaders* and is addressed to senior leaders in schools and 'the trainer'. In the early stages it is likely that the trainer will be an LA consultant, particularly the lead consultant for Leading in Learning. However, as the initiative develops, senior leaders and the consultant should work together so that the school team gradually take a more prominent role and ultimately take full responsibility for phasing and supporting the initiative.

Experience suggests that the following principles are essential to success.

- Establish a small group of enthusiastic and forward-thinking teachers to spearhead the development. Allow time for this group to gain experience before considering how the approach can be extended.
- Emphasise at all times that the overall aim is not simply to increase teachers' repertoire of strategies but to give conscious attention to the development of pupils' thinking skills. So, as teachers carry out trials to become familiar with the strategies and the teaching approach, they are also required to give informed attention to the thinking skills.
- Strategy guidance on coaching is particularly useful as a model of support (*Sustaining improvement: A suite of modules on Coaching, Running networks and Building capacity*, 0565-2003 G). As teachers gain experience of teaching thinking skills they should be developed in their coaching skills in order to support colleagues more skilfully.

Training materials

In this initial version (February 2006), the materials consist of:

- sessions to train the trio of *Leading thinkers* and the senior leader, prior to setting up 3-subject cycles (Trio training);
- a short session designed to focus attention on pupil progression in thinking;
- three short sessions on improving the plenaries of thinking skills lessons (Developing metacognitive plenaries).

Notes for trio training are designed for use by an LA consultant or someone with expertise in Leading in Learning at Key Stage 3. The sessions on developing metacognitive plenaries could be used by the school senior leader and the trio of *Leading thinkers* working together. The agenda for a planning meeting and all training handouts are also provided in Microsoft Word format so that they can be tailored to suit your circumstances. Where appropriate, there are Microsoft PowerPoint slides for use in the training.

As the model for implementation of Leading in Learning at Key Stage 4 develops, it is intended to add more sessions to this manual.

The DVD

The accompanying DVD contains sequences filmed in two of the schools that participated in the pilot of Leading in Learning at Key Stage 4. The sequences include extracts from three Year 10 lessons, teacher planning and review meetings and interviews with pupils and teachers. The lesson extracts are intended to illustrate developmental processes the schools have engaged in.

Sequence	Session	Duration	Title	Description
1	Trio training 0	4 minutes	Thinking skills and coursework	Teachers and pupils comment on the usefulness of developing thinking skills as a preparation for GCSE coursework
2	Trio Training 1	3 minutes	Teacher and pupil voices	Teachers and Year 10 pupils from two pilot schools talk about their thinking skills lessons and the impact on learning and teaching
3	Trio training 1	12 minutes	Evaluating in English	Kesner develops the evaluation skills of a Year 10 class by using the analogies strategy with Kevin, a science teacher, taking the plenary. This is the third English lesson in the second sequence of a long cycle
4	Trio training 2	6 minutes	Teacher roles: observing teacher	Mat (observing teacher) leads the review with Kesner (subject teacher) and Kevin (plenary teacher)
5	Trio training 2	4 minutes	Teacher roles: plenary teacher	Kath discusses the role of the plenary teacher, illustrated by extracts from her plenary to Susan's RE lesson
6	Further developments – Improving progression in pupils' thinking skills	8 minutes	Pupils' responses to reading images	Examples of pupils in a Year 10 mixed-ability class developing their reasoning skills in Susan's RE lesson, the second lesson of a short cycle
7	Developing metacognitive plenaries 2	6 minutes	Kevin's plenary	The plenary of Kesner's 'Evaluating in English' lesson, led by Kevin (from sequence 3)
8	Developing metacognitive plenaries 3	7½ minutes	Features of Mark's practice	The plenary from Kath's history lesson led by Mark, a mathematics teacher, preceded by a short extract from the pre-lesson discussion
9	Additional sequence	11 minutes	Reviewing after six lessons in a long cycle	Mat (design and technology), Kesner (English) and Kevin (science) review progress in a long cycle

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We are very grateful to all the teachers and pupils of the schools that feature in these videos. They are: Hagley RC High School (11–18), Worcestershire, which has 1000 pupils on roll, 4% of whom take free school meals; and Marden High School (11–16), North Tyneside, which has 900 pupils on roll, 4% of whom take free school meals.

Other materials

In addition to the training materials in this guide there are other Strategy materials you will find useful. In particular, the *Leading in Learning: Key Stage 4 Handbook for teachers* is an essential resource for training and reference purposes.

One key feature of the initiative is the way in which training should respond to and anticipate more general needs which emerge as points for development, for example developing effective group work. Guidance on developing specific aspects of teaching and learning can be found in *Pedagogy and practice: Teaching and Learning in Secondary Schools* (0423-2004 G).

Another key feature of the training is the use of *Leading thinkers* working outside their own subject disciplines to coach less experienced colleagues in teaching thinking skills. It is important not to begin to use this model too soon. Teachers must be sufficiently experienced and confident in their own teaching of thinking skills in order to work with colleagues in this way. Guidance on the coaching process can be found in *Sustaining improvement: A suite of modules on coaching, running networks and building capacity* (0565-2003 G).

There is an additional video sequence on the DVD, sequence 9, *Reviewing after six lessons in a long cycle*. This illustrates the peer coaching process that is an integral part of the 3-subject model.

Preparing for and running the training programme

Currently, the training notes have two main sections: **Trio training** and **Developing metacognitive plenaries**. Important features of each section include the following points.

- The **audience** is defined. If this is a small group, a boardroom style of seating would be best, with the use of a flipchart, handouts and a TV with DVD player. For larger numbers, seat participants around tables in groups of four to six and use a projector for Microsoft PowerPoint slides and DVD.
- The **purpose** is also described to give you the chance to see at a glance at what stage of development the training will support your staff.
- The **background notes** are designed to set the context and give a feel for the tone of the training and to allow you to gather your thoughts before reading the detailed notes.
- For trio training there is a **planning agenda** for a meeting that needs to occur during the period leading up to the training. The sessions are approximately 60–75 minutes long. There is a lot for the *Leading thinkers* to take on board and scheduling these sessions requires careful consideration.

- Developing metacognitive plenaries involves some **preparatory tasks**. The sessions require perhaps 30 minutes each, designed as a sequence with gaps for interim tasks and reflection.

Make sure that colleagues leading training are fully briefed on using the session notes, especially on the following points.

- The **objectives** give a clear guide to what should be achieved through the training. Sharing these with the group and revisiting them at the end of each session reinforces the focus.
- A list of **resources** provides a task list for administrative support with printing and duplication. However it is more important than that: it represents essential pre-reading (or previewing) for the trainer.
- **Slides** are provided for some sessions. When working with a small group of teachers you might prefer to work around a laptop computer or, when a slide has only a small amount of text, replace it with notes on a flipchart.
- **Video sequences** are mostly short but can be very powerful. In order to use them to their full potential they need to be previewed once or twice while annotating the prompts given in the session notes. As the participants watch the video they should also concentrate on the prompts. Ensuing discussion of video can quickly lose focus (teachers love to talk about other classrooms, teachers and pupils). Be strict here: keep referring back to the reason for watching the video and use the notes you have made to refocus the group discussions.

2 Trio training

Audience

A group of *Leading thinkers* and the school leader

Purpose

To enable trios of *Leading thinkers* to establish a 3-subject cycle with selected teaching groups

Session	Purpose	Time
0 Thinking skills and coursework	To enable <i>Leading thinkers</i> to use analysis of coursework to agree an aspect of thinking to develop	75 minutes
1 Planning the 3-subject cycle	To enable <i>Leading thinkers</i> to plan together as part of a 3-subject cycle	60 minutes
2 Working together in a 3-subject cycle	To enable <i>Leading thinkers</i> to support one another in improving thinking skills lessons	60 minutes

Background notes

The teachers in this small group need to feel that they are involved in a very exciting development with enormous potential. The start of the first session should give this message. Pupils involved have commented on the fact that this approach has changed their perception of what school is about. They have come to realise that applying thinking skills inside and outside of school is unavoidable. They are beginning to see themselves as learners in a general sense rather than within particular subjects.

Thinking skills lessons need to be conducted in a particular way to be most effective and this often requires adaptation of classroom practice. The sessions will help *Leading thinkers* to develop a focus for the lessons, to plan using an agreed approach and to build the capacity for change. The session may be used with a single trio in one school or with a pair of trios drawn from two schools.

Planning agenda

The next page gives a suggested agenda for a planning meeting that needs to occur **at least one month before** Trio training is scheduled.

Planning agenda: 3-subject cycle (60 minutes)

Audience

The senior leader, a key teacher (one of the *Leading thinkers*) and the lead consultant

Purpose

This agenda should be personalised for a meeting to plan the key elements of the 3-subject cycle.

Timing

The meeting should take place at least a full working month before Trio training.

Item	Notes
Identify the three <i>Leading thinkers</i> (<i>Key Stage 4 Guide for school leaders</i> , page 15)	
Identify the three teaching groups (<i>Key Stage 4 Guide for school leaders</i> , page 16)	
Agree date, venue and leadership of Trio training (<i>Key Stage 4 School training manual</i> , pages 10–22)	
Arrange preliminary discussion with <i>Leading thinkers</i> , inform them of training dates and organise the preliminary task of subject-specific coursework analysis (<i>Key Stage 4 Handbook for teachers</i> , page 11, just the first task in the table)	
Agree roles and responsibilities in supporting success of programme (<i>Key Stage 4 Guide for school leaders</i> , page 13–17)	
Any other business	

Session 0: Thinking skills and coursework

Objectives

- To appreciate the connection between thinking skills and coursework
- To agree an aspect of thinking on which to focus developments
- To become familiar with the support in the *Key Stage 4 Handbook for teachers*

Resources

From pre-task: prepared analysis of coursework in each of the three subjects

Copies of the *Key Stage 4 Handbook for teachers*

Slides 2.1–2.4

Video sequence 1 Thinking skills and coursework

Handouts

Handout 2.1 Aspects of thinking skills, cut into cards

Key Stage 4 Handbook for teachers, Appendix 1: Coursework analysis template

Key Stage 4 Handbook for teachers, pages 15–17: 'Case study – School A' (one copy, provided as a handout, per two or three participants)

Session outline (75 minutes)

Introducing the initiative	10 minutes
Exploring the thinking skills	10 minutes
5Ws	10 minutes
Sharing coursework analysis	30 minutes
Agreeing aspects for development	15 minutes

Introducing the initiative (10 minutes)

Share objectives with the group, showing **slide 2.1**.

Slide 2.1: Objectives

- To appreciate the connection between thinking skills and coursework
- To agree an aspect of thinking on which to focus developments
- To become familiar with the support in the *Key Stage 4 Handbook for teachers*

Make sure that teachers feel that they have been carefully selected as a key team within this element of school improvement so that they feel valued and important (but not under pressure). Explain that the explicit focus of the Key Stage 4 model is the link between developing thinking skills and improving pupil performance in GCSE coursework. This approach capitalises on the fact that production of coursework is an area in which pupils must use a range of independent study and research skills in order to do well. The approach uses particular strategies to help provide the pupil with techniques to improve thinking and learning and to notice this improvement. Involving pupils in this way will influence how they perceive themselves as independent learners.

Show **video sequence 1** Thinking skills and coursework (4 minutes). It shows Year 10 pupils and teachers reflecting on the links between thinking skills and coursework.

Finally, comment on the fact that although the main focus of the development links to coursework, improving thinking skills will also help to raise standards overall, by helping pupils to do well in examinations. Show **slide 2.2**.

Slide 2.2: Wider benefits of thinking skills and strategies

- In test circumstances, pupils' responses will draw on the same skills
- Many of the strategies that are used to develop these skills are equally useful as revision techniques
- Any developments that help pupils gain greater understanding of the 'big ideas' of curriculum areas are likely to help them remember and reproduce their understanding

Exploring the thinking skills (10 minutes)

Say that to start the process you are going to engage them in a short example of a classifying task. Ask the teachers to sort the cut-up cards (**handout 2.1**) into groups that have shared characteristics. Remind them that they need to be able to explain their thinking and justify their decisions. After a few minutes supply a few blank cards on which the group should agree to write a word or short phrase that forms a heading for each category.

Take feedback and discuss the importance of the processing, rather than the outcome. Making it clear what you are doing, model a couple of the types of plenary question that would be used in the classifying strategy, such as:

- 'Which card was particularly difficult to place?' (reflective – specific) 'Can you show me a set of three linked cards where you can easily explain the connection... why?' (reasoning)

Do not disturb the arrangement of the cards but put them carefully to one side for the moment. Explain that classifying is one of the ten strategies that are available for teachers to use and ask them to turn to page 71 of the *Key Stage 4 Handbook for teachers*. Allow a few moments to read to the end of section 3 of this strategy. Draw on aspects of the rationale to highlight the process that teachers have just been through.

- They have collected, sifted and examined information.
- In constructing categories, they have generated and tested hypotheses.

5Ws (10 minutes)

Explain that you are now going to use a second strategy. Ask teachers to read the first three sections of the 5Ws strategy on page 44 of the *Key Stage 4 Handbook for teachers*. As with classifying, you are only briefly illustrating some aspects of the strategy. With pupils, the thinking aspect of the strategy would be explicitly developed in much greater depth. In this case you are going to use 5Ws to help teachers to locate their position in the preparatory stages of implementing the Leading in Learning initiative. Ask them to turn to page 11 of the *Key Stage 4 Handbook for teachers* and to consider the first three sections of the table against the questions on **slide 2.3**. Allow about 5 minutes for discussion.

Slide 2.3: 5Ws

- Who is making decisions?
- What are they deciding?
- Where is the information to support the decisions?
- When will this happen?
- Why are they doing this?

Take some brief feedback and point out that the teachers have already moved through section 1 of the table in preparation for this training and that this session is taking them through sections 2 and 3.

Sharing coursework analysis (30 minutes)

Show **slide 2.4**, which lists the five National Curriculum thinking skills.

Slide 2.4: National Curriculum thinking skills

- Information processing
- Creative thinking
- Enquiry
- Evaluation
- Reasoning

Although the teachers may have recognised the phrases classified at the start of this session, the groups and the headings they have chosen are unlikely to exactly match the description in the National Curriculum. This is not a problem; words and phrases can be interpreted in a number of ways and thinking is not simple to describe.

However, it is helpful to have a shared vocabulary, so the *Leading in Learning Key Stage 4 Handbook for teachers* works with the categories described in the National Curriculum. Ask teachers to turn to page 7 of the *Handbook* and allow a few moments for them to compare the classification of the bold phrases with their categories and headings.

Allow most of this 30-minute section for the group to consider each of the five National Curriculum thinking skills one by one.

- Read the subsections of the skill (on pages 12–15).
- Share any examples of strengths or weakness that emerged from preparatory analysis of coursework they undertook with subject colleagues.
- Note on the coursework analysis template (from appendix 1 of the *Key Stage 4 Handbook for teachers*) which development points emerge as common to the three subjects and how these relate to aspects of the thinking skills.

Agreeing aspects for development (15 minutes)

As a final brief taste of yet another strategy, ask teachers to read the first three sections of Summarising on page 103 of the *Key Stage 4 Handbook for teachers*. Now ask them to summarise the case study on pages 15–17 of the *Handbook* (provided as a handout for marking up). Suggest that they work together to delete unwanted or trivial text and highlight key words and phrases.

After a few minutes, ask them to give you an oral summary of the text.

The case study just summarised is provided as an illustration of one of the desired outcomes of this session. Using their increased awareness of the thinking skills and the notes they have made on emerging common issues in coursework, the group now needs to agree a common thinking skills focus. This session is concluded by reaching agreement on the following question:

Which aspect or aspects of thinking will most help pupils to improve their coursework performance across all three subjects?

Session 1: Planning the 3-subject cycle

Objectives

- To support the planning required for a 3-subject cycle
- To agree the model for a 3-subject cycle
- To become familiar with the support in the *Key Stage 4 Handbook for teachers*

Resources

Pre-reading:

Key Stage 4 Handbook for teachers, introduction and pages 25–30

Key Stage 4 Handbook for teachers, section on the 'Analogies' strategy, pages 57–63

Copies of the *Key Stage 4 Handbook for teachers*

Slides 2.5–2.9

Video sequence 2 Teacher and pupil voices

Video sequence 3 Evaluating in English

Handout

Key Stage 4 Handbook for teachers, appendix 1 page 112
Collaborative planning template

Session outline (60 minutes)

Introducing the 3-subject cycle	15 minutes
Planning the lessons	35 minutes
Agreeing the model for 3-subject cycles	10 minutes

Introducing the 3-subject cycle (15 minutes)

Share objectives with the group using **slide 2.5**.

Slide 2.5: Objectives

- To support the planning required for a 3-subject cycle
- To agree the model for a 3-subject cycle
- To become familiar with the support in the *Key Stage 4 Handbook for teachers*

Refer the group to the section of the *Handbook* 'The 3-subject cycle', starting on page 18. Do not get distracted by the logistics of the initiative at this stage. Concentrate on the principles of the model, namely:

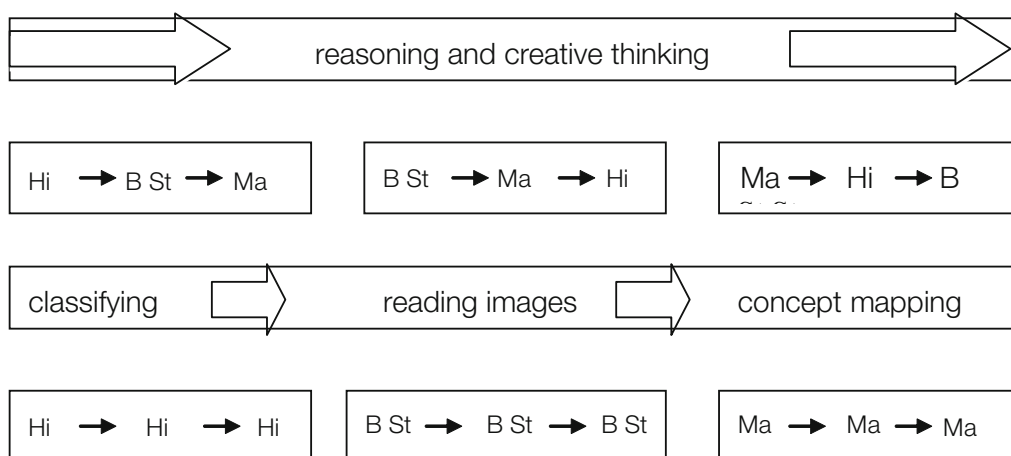
- a trio of teachers from three different subjects collaborating in planning, observing and reviewing;
- three teaching groups with as many pupils in common as possible;
- a 3-subject cycle taught as a progression.

Have a short discussion on:

- features of the short cycle and the long cycle, clarifying the similarities and differences;
- how, in both variations of the model, one teaching strategy is used over three lessons.

Refer next to the diagram 'Overview of 3 short cycles and a long cycle', using **slide 2.6**, adapted to the school, with the appropriate subjects and thinking skill.

Slide 2.6: Overview of three short cycles and a long cycle



Note the decisions that have yet to be made:

- choice between three short or one long cycle;
- order of subjects;
- choice of strategies.

Next, allow 3–4 minutes for everyone to read 'Case studies: school B', 'Roles and responsibilities' and 'Choosing a model'. Say that discussion of roles and responsibilities will be the focus for the next session. On the choice of model, discuss the issues in relation to the circumstances of the school and the preferences of the group. Ask everyone to reflect on the issues as you will be expecting them to make decisions between the two models at the end of the session. Conclude this part of the session with **video sequence 2** Teacher and pupil voices (3 minutes), which shows:

- teachers reflecting on the impact of thinking skills lessons;
- pupils reflecting on how the lessons have affected them.

Planning the lessons (35 minutes)

Ask the group to turn to page 112 of the *Key Stage 4 Handbook for teachers*, which shows the planning template and pages 25–30, which explore in more detail the features of each episode of the lesson (pre-reading for the session). Say that we are going to discuss the purpose of the various episodes of the lesson by watching a video example. Hand out a copy of the **collaborative planning template** and show **slide 2.7**.

Slide 2.7: Kesner's English lesson

- This was the third English lesson, the sixth lesson in a long cycle, the subjects in order being technology, English and science
- The thinking skill in focus is Evaluation
- The strategy being used to develop this is analogies

Talk through how you will use the video to support planning by identifying issues that Kesner must have considered. Use the prompts on **slide 2.8**.

Slide 2.8: Video prompts

For each episode of the lesson:

- Read the notes in the *Key Stage 4 Handbook for teachers*
- Watch the video clip and note points against the planning template
- Have a brief discussion
- Note personal action points

Show the first two episodes of **video sequence 3** Evaluating in English, pausing after each for a discussion: **The launch** (2½ minutes, *Handbook* page 26); **Group work** (3½ minutes, *Handbook* page 27).

In the discussion for each episode:

- draw out features that are evident from the video and other features that have to be inferred;
- draw particular attention to the **distinctive features**, as it is these features that distinguish it from the generality of lessons.

Before watching the final episode, point out that the plenary teacher is Kevin, the science teacher in the trio. Then show the final episode – **Plenary** (6 minutes, *Handbook* page 27).

Discuss features of the plenary, as you did for the launch and group work.

In conclusion, note that this was the third English plenary. In order to increase the challenge Kevin steps out of the strategy and concentrates on the thinking skill the strategy was being used to develop. In particular, he uses bridging to help the pupils to apply metacognition to the criteria for evaluation. Remind everyone that you will return to the role of the plenary teacher in the next session.

Agreeing the model for 3-subject cycles (10 minutes)

Remind the teachers of the decisions they need to make, which can be summarised as follows:

1. **whether to have three short cycles or one long cycle** – the main points to note are:
 - the short cycle has the advantage that transfer is explicit, as some pupils experience the same skill in different contexts. The disadvantage is that a smaller number of pupils may be common across these three lessons, making progression harder to develop;
 - the long cycle has the advantage that the pupils are common to all three lessons in any one sequence and this could help develop progression. The disadvantage is that although transfer and bridging are described in the plenaries they are not enacted until the next three lessons take place;
2. **the order of subjects** – it is important to think about which teacher is most familiar with the chosen thinking skill. They might begin the first cycle or sequence of lessons, in order to get it off to a good start (see the *Key Stage 4 Handbook for teachers* page 22);
3. **the teaching strategy to use for the first three lessons** – to help them with this task they can draw on:
 - the *Handbook* section ‘Ten strategies to make links’, including the ‘Thinking skills and strategies’ chart;
 - section 2 ‘National curriculum thinking skills and coursework’, which appears as part of each strategy in the *Handbook*.

Use the remaining time to agree decisions, as far as possible. If further reflection and discussion is needed, agree the date by which these decisions will have been made, so that detailed planning can proceed.

Finally point out that the way teachers work together is as important as the teaching they do in the classroom. Conclude the session by showing **slide 2.9**, drawn from *It's about Learning* by Louise Stoll, Dean Fink and Lorna Earl.

Slide 2.9: Collaborative working

The time teachers spend with each other and with other knowledgeable educators – engaged in thinking about teaching and learning – is just as important to students' opportunities to learn as the time teachers spend in direct facilitation of learning.
Darling-Hammond (1999)

Conclude the session by reassuring the group that the next session will consider in detail how the collaboration will operate.

Session 2: Working together in a 3-subject cycle

Objectives

- To understand the roles of teachers in lessons of the 3-subject cycle
- To discuss ways of working together to maximise impact on thinking and learning
- To become familiar with the support in the *Handbook for teachers*

Resources

Copies of the *Key Stage 4 Handbook for teachers*

Slide 2.10

Video sequence 4 Teacher roles: observing teacher

Video sequence 5 Teacher roles: plenary teacher

Handouts

Key Stage 4 Handbook for teachers, Appendix 1: Lesson observation schedule

Handout 2.2 (*Key Stage 4 Handbook for teachers*, appendix 1 Pupil review sheet, without the title, as an A4 sheet pasted onto a larger sheet of plain paper)

Session outline (60 minutes)

Introduction	5 minutes
The role of the observing teacher	15 minutes
Reading images	15 minutes
The role of the plenary teacher	15 minutes
Next steps	10 minutes

Introduction (5 minutes)

Share the objectives on **slide 2.10**.

Slide 2.10: Objectives

- To understand the roles of teachers in lessons of the 3-subject cycle
- To discuss ways of working together to maximise impact on thinking and learning
- To become familiar with the support in the *Handbook for teachers*

Introduce this part of the training by saying that as an outcome of the session, teachers should have a greater appreciation of the value of collaboration within their trio. They should understand how the three different roles taken on by the teachers contribute to improved thinking and learning.

To begin, ask teachers to refresh their memory of the roles by rereading the three bullet points on pages 19 and 20 of the *Key Stage 4 Handbook for teachers*.

If the group has decided which of the two types of cycle is to be used, then look only at the relevant diagram on page 20 and reinforce the implication for roles.

- Short cycle – it helps to connect the lessons and the thinking if the plenary teacher of one lesson is the subject teacher of the next. Within three lessons all teachers experience all roles.
- Long cycle – over three lessons each teacher specialises in a single role and thus gets the chance to improve their practice. Across nine lessons all teachers experience all roles.

Whichever model is chosen, the cycle of ‘plan—teach—review’ is a collaborative enterprise.

The role of the observing teacher (15 minutes)

Distribute a copy of the **lesson observation schedule** from appendix 1 of the *Key Stage 4 Handbook for teachers*. For each of the sections, ask teachers to cross-reference this schedule with the more detailed guidance in the introduction to the *Handbook*.

Launch: page 26

Middle/group work: page 27

Plenary: pages 27 and 28

This schedule is a notepad to be used by the observing teacher during the lesson. The prompts in the left-hand column are reminders about important aspects of each part of the lesson that will help to focus the collaborative review.

Ask teachers to read page 32 – the role of the observing teacher. Say that in a few moments you are going to watch an extract from a collaborative review between three teachers after six lessons in a long cycle. Mat, the observing teacher for

the three English lessons, was the subject teacher (technology) in the first three lessons. As they watch this 6-minute excerpt teachers should note to what extent Mat demonstrates the key features of this role as described in the four bullet points on page 32 – those features that their contribution should include as an observing teacher. **Show video sequence 4** Teacher roles: observing teacher.

Take feedback and emphasise that the observation schedule was a crucial document that Mat used to inform his contribution to the review. Note also that Mat ensures that all aspects of the lesson are focused on systematically. In this video clip we do not see long discussions relating to the plenary because we will focus on this aspect of the lesson next. (A longer edit of this review is available on the DVD – **video sequence 9** Reviewing after six lessons in a long cycle.)

Reading images (15 minutes)

Distribute **handout 2.2** as an A4 sheet pasted in the centre of a large sheet of paper. Ask the group to annotate this image:

- Making links to anything they have already learned.
- Suggesting a title or overall heading.

Allow about 5 minutes for this and then take some brief feedback on the notes made. Point out that the image they have been reading is drawn from the templates in the *Key Stage 4 Handbook for teachers*, appendix 1, and it is available for them to use and adapt in order to gather pupil views. Their notes may help them in this adaptation.

They have also been engaged in a taste of the strategy of reading images. Ask them to turn to the *Handbook* section for this strategy and to read through the guidance. They should pay particular attention to sections 8 'Metacognitive plenary' and 9 'Bridging scenarios'. We will use this guidance to consider the role of the plenary teacher.

The role of the plenary teacher (15 minutes)

Ask the group to read pages 28–30 in the *Key Stage 4 Handbook for teachers* on 'Metacognitive plenary questions' and discuss the way that this guidance relates to the specific example in the 'Reading images' table of questions on pages 101 and 102.

Now watch **video sequence 5** Teacher roles: plenary teacher. In this 4-minute clip Kath, a history teacher, leads the plenary of the second (RE) lesson in a short cycle using the reading images strategy to focus on the thinking skill of Reasoning.

Allow time for *brief* comments after the video. Before a more detailed discussion of the role, ask teachers to read pages 32 and 33 in the *Key Stage 4 Handbook for teachers*, which summarises a number of the points made by Kath.

Next steps (10 minutes)

At the end of this session teachers should feel better informed about aspects of each of the three roles. Allow a short time to discuss any outstanding issues or uncertainties. Summarise the decisions essential before detailed planning can begin (the first two should already be in place):

- the focus of the cycles, i.e. specific aspects of thinking skills;
- the choice of model, namely one long cycle or three short cycles;
- the order of subjects;
- the first teaching strategy to be used;
- the teacher roles.

Draw attention to page 22 in the *Key Stage 4 Handbook for teachers*, 'Planning: before the cycle begins', where the notes summarising and supporting the decisions preparatory to planning the lessons are to be found. It would be ideal if agreement could now be reached on all the items. As a minimum, agree a date by which these points will be settled. A short meeting could then be convened to agree key dates for the first three lessons and the collaboration required in the 'plan—teach—review' cycle.

Further developments

In the *Key Stage 3 School training manual* sections 3–7 are as follows.

3. Whole-school launch
4. Working within departments
5. Working across departments
6. Whole-school review
7. Recycling trio training

It is not simple to adapt these stages of training to be scaled up into Key Stage 4 because the organisation of the curriculum at Key Stage 4 is quite different. Consequently, this version of the training manual (February 2006) does not contain sections 3 to 7. As more schools implement at Key Stage 4 and experience grows it is intended that training to support next steps will be added.

Improving progression in pupils' thinking skills

In the interim it is likely that a trio of teachers working at Key Stage 4 may wish to develop their cycle of lessons by improving progression in pupils' thinking. To support this a video sequence has been provided on the DVD. It is **video sequence 6** Pupils' response to reading images, and shows examples of Year 10 pupils developing their reasoning skills in Susan's RE lesson, the second of a short cycle. The trio should first consider the SOLO taxonomy to focus their attention on progression in pupils' thinking (see *Key Stage 4 Handbook for teachers* 'Developing progression in thinking skills') and then watch the video alongside **handout 3.1**.

8 Developing metacognitive plenaries

Audience

Small groups of teachers who are seeking to improve their teaching of thinking skills lessons

Purpose

To engage teachers in a collaborative exploration of aspects of the teacher's role that help to develop metacognitive plenaries

Session	Purpose	Time
1 The teacher's role: an analogy	To make teachers think and talk about taking on a deliberately different role in the plenary of a thinking skills lesson	30 minutes
2 Focusing on specific aspects	To make teachers think and talk about taking on a deliberately different role in order to help pupils develop metacognitive skills and to improve the plenary	30 minutes
3 Taking small steps forward	To make teachers talk and think about support models for developing their teaching of thinking skills, particularly in the plenary	30 minutes

Background notes

Plenaries aim to help pupils articulate, generalise and connect their learning to other contexts but they can be hard to do well. At least part of the difficulty is that lessons that have open, challenging tasks done collaboratively lead to diverse learning outcomes. This makes it much harder to predict what pupils might have learned. This is very different from lessons that are more convergent and aimed at mastering a new idea or process.

These sessions are best scheduled when teachers have some experience of teaching thinking skills lessons and have developed their practice, but can see the value of further refining and developing the plenary.

Preparatory tasks

- Read the guidance notes.
- Print off and copy the resources specified.
- Decide when to run the sessions and in what groupings.
- Organise the venue, resources and people involved.

Session 1: The teacher's role – an analogy (30 minutes)

Objective

To understand aspects of the teacher's role in the plenary of a thinking skills lesson

Resources

Handout 8.1 Comparing the teacher and a talk show host

Session notes

Explain to the group that to be able to conduct plenaries that help pupils to articulate, generalise and connect their learning to other contexts, we need to think differently. An analogy that may help in this mind shift is the teacher as a talk show host. Such presenters stage manage the discussion so that ideas and viewpoints are exposed and shared, argument is engineered, outlandish views are challenged, connections are made, tension is built, repercussions are explored and outcomes are summarised. To some extent this is what a teacher is trying to do in a plenary.

Task

Ask everyone to work in pairs to explore this analogy. Distribute **handout 8.1**, Comparing the teacher and talk show host, to focus your discussion. Together, as a quick focusing exercise, note in the left-hand column the roles and strategies (and tricks) employed by talk show hosts (think of David Dimbleby, Vanessa, Kilroy, even Graham Norton). Look at the middle column: this is for aspects of the teacher's role in the plenary that are equivalent to those of the talk show host. Explain that the final column is for differences in the teacher role, or teacher roles that are not evident in a talk show host. Allow **10 minutes** for each pair to make notes in these columns.

After this time move into whole-group discussion. This discussion may not produce unanimous agreement, but encourage the view that different (teaching) behaviour requires different thinking.

As might be expected, there is no correct list of roles and strategies, but the following insights about teacher roles could emerge.

- The teacher needs to 'research' what pupils think or have said so that they can be called on at an appropriate point to build discussion.
- The teacher needs to have a plan (script) but they need to be flexible and adapt to what unfolds.
- The teacher might encourage two pupils or groups to argue, to put their different viewpoints side by side, to respond and react to each other.
- The teacher sometimes needs to move the debate on.
- The teacher needs to get pupils to explain clearly what they mean and, if necessary, justify the viewpoint.
- The teacher generally does not say what they think, unless it is to provoke.

Next steps

Agree that all or some of the group will experiment in the plenary of a forthcoming thinking skills lesson. In that plenary the teacher will endeavour to develop one role or strategy in stage managing discussions. It is a good idea if a note is taken of who is agreeing to have a go, what their focus will be and which class will be used.

Session 2: Focusing on specific aspects (30 minutes)

Objective

To explore strategies for helping pupils to use metacognitive processes during the plenary

Resources

Handout 8.2 Features of Kevin's plenary
Video sequence 7 Kevin's plenary (6 minutes)

Session notes

There is no need to start the session with colleagues reporting back from their experiments following session 1. Their experiences and views should emerge following the watching of the video sequence.

Task

Prepare to watch a video sequence. It shows extracts from Kevin teaching the plenary of a Year 10 English lesson, which is the sixth lesson in a long cycle. Kevin has taken on the role of the plenary teacher in the previous two English lessons, which used the analogies strategy to develop pupils' evaluation skills.

Look at the questions on **handout 8.2** Features of Kevin's plenary. Agree who does what – suggest that each individual looks at one question. In addition, everyone who has been experimenting with plenaries from session 1 should compare Kevin's plenary to their own – what is similar and what is different? Show **video sequence 7** Kevin's plenary, which lasts 6 minutes.

When the clip is finished allow a few moments for final notes and to gather thoughts. Remind the group that the discussion now should be focused around the notes they have made and other reflections relevant to these prompts. As a support to the discussion you may wish to summarise using the following points.

- Kevin does not jump in to finish off the pupils' contributions, he gives them 'think time' and occasionally he prompts them to give a more extended response. He listens carefully to what the pupils say and uses their response to develop his planned agenda of thinking about the use of criteria in making judgements.
- He encourages transfer by focusing on bridging scenarios. In this case he begins out of school (shoe shopping), moves to general school applications (coursework) and then into a subject (chemistry experiments).
- This plenary has a greater focus on metacognition as Kevin develops the thinking across a series of plenaries rather than teaching each as a one-off.

Next steps

On the basis of the discussion of the video and their practice, ask everyone to identify one or two aspects of, or strategies for, plenary practice that they will try to develop before the next meeting. Again, record these commitments.

Session 3: Taking small steps forward (30 minutes)

Objective

To consider the support available for structuring plenaries and ways of developing them further

Resources

Video sequence 8 Features of Mark's practice

Session notes

Tell the group that this session focuses on how one teacher is developing his practice and asks how you might develop an effective support model in your school.

Task

Explain that participants are going to watch a video of Mark, a mathematics teacher, taking the role of plenary teacher in a history lesson. This is the third lesson in a short cycle using the reading images strategy to develop reasoning with a Year 10 class. The three teachers have some experience of using the strategies but are working together to give greater attention to unpacking pupils' thinking. You will see a short extract from the pre-lesson discussion in which the trio discusses the planning of the plenary.

Ask teachers to turn to section 8 of Reading images page 98, and consider the types of question Mark uses as the plenary develops. Show **video sequence 8** Features of Mark's practice, which lasts 7 minutes. Following the viewing, discuss the following question.

What steps might the trio take in the plenaries of the next short cycle, particularly to move the focus away from the strategy and more explicitly towards the thinking skill of reasoning?

Finally, in addition to the support provided by collaborative planning with the *Key Stage 4 Handbook for teachers*, ask the group what form of support they would like in order to develop their teaching of thinking skills in general and of plenaries in particular. Options might include:

- further school-based in-service training from a consultant or other party;
- the use of coaching – Strategy guidance on developing this is available in *Sustaining improvements: A suite of modules on coaching, running networks and building capacity* (0565-2003 G);
- participating in a regular network of this kind to share and develop practice. Suitable resources to support this include four Foundation subjects modules (Module 11: *Principles for teaching thinking*, Module 12: *Thinking together*, Module 13: *Reflection* and Module 14: *Big concepts and skills*).

Handouts

Handout 2.1: Aspects of thinking skills

Classify	Compare and contrast	Test conclusions
Sequence	Ask relevant questions	Suggest hypotheses
Generate and extend ideas	Pose and define problems	Plan what to do and how to research
Make judgements and decisions informed by reasons or evidence	Develop criteria for judging the value of their work or ideas	Judge the value of what they read, hear and do
Analyse part/whole relationships	Give reasons for opinions and actions	Use precise language to explain what they think
Have confidence in their judgements	Draw inferences and make deductions	Look for alternative innovative outcomes
Apply imagination	Evaluate information	

(Remove heading and paste on large sheet of plain paper)

Class:	Cycle: Long/Short After lesson number: 1 2 3 4 5 6 7 8 9
Name: Gender: male/female	Class:
Date:	Subjects:
Thinking skill:	
What stands out from what you have learned as being particularly important?	
How does this help you to learn about thinking?	
How would this help you in other subjects?	
How could this be useful in your GCSE coursework?	
What else is important for you to say?	

Handout 3.1: Prompts for observing pupils working on Reading images

In **video sequence 6** Pupils' response to reading images, you will see extracts from lesson 2 in a cycle using the strategy of reading images to develop reasoning skills.

- You will see a group of pupils in an RE lesson trying to interpret the meaning of images drawn from two religions. Both images relate to the theme of death.
- During the group work in the RE lesson you see a brief teacher intervention. Does this move the thinking on?

Progress in reasoning skills	Note examples of pupils' comments
Pupils understand the task but the links they make to what they know are largely unsubstantiated or inaccurate.	
Pupils make links relating to one or two visible features in the image and provide simple, short explanations for the connections.	
Pupils make links regarding three or more features and provide reasons for these connections but no overarching links are made and evidence is sparse. They create a descriptive title for the image.	
Pupils interpret several visible and abstract features of the image and connect them together to create a whole idea, interpretation or theory and create a title that reflects this. They use evidence to support more complex reasoning.	
Pupils connect several of the more abstract features within the image and suggest alternative positions for their interpretations that go beyond the visible features and hinge on different assumptions. Explanations for this thinking are extended. They produce and explain abstract titles that go beyond the visible features.	

Handout 8.1: Comparing the teacher and a talk show host

Talk show host roles and strategies	Equivalent roles and strategies for teacher in plenary	Differences in teacher role or additional teacher roles

Handout 8.2: Features of Kevin's plenary

How has Kevin used his visits to individual groups and his 'research' during this and the previous two lessons?

How does Kevin use pupils' contributions to draw out aspects of thinking?

What characteristics or features of evaluation are drawn out during the plenary and how are these pulled together?

Why do pupils give extended answers, often several sentences rather than one word?

How does Kevin use bridging to encourage transfer of learning?