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Secondary National Strategy for school improvement

Leading in Learning: developing thinking skills in secondary schools

Key Stage 4 Guide for school leaders
(Feb 06 version)



department for

education and skills

creating opportunity, releasing potential, achieving excellence

Secondary
National Strategy
for school improvement

**Leading in Learning: developing
thinking skills in secondary schools**

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A guide for schools launching Leading in Learning first at Key Stage 4

Acknowledgements

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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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Foreword

The Leading in Learning programme has been developed as part of the Secondary National Strategy's support for whole-school improvement. It is a systematic, research-based programme, focused on improving pupils' thinking skills in curriculum subjects. This initiative is a key element in the government's commitment to personalised learning that seeks to build every aspect of education to meet the needs and aspirations of individual learners, to maximise their achievement and create independent, lifelong learners.

Personalised learning is an approach to teaching and learning that stresses deep learning as an active, social process and which is explicit about learning skills, processes and strategies. It builds independence through interaction, intervention, stimulation and collaboration. Leading in Learning is at the heart of personalised learning because it involves the systematic and explicit development of thinking and learning skills and strategies across the curriculum. It enables pupils to understand themselves better as learners and to apply a widening repertoire of learning approaches in different subjects. Giving explicit attention to thinking and learning equips pupils to transfer their learning to different contexts and helps them to process, construct and deploy subject knowledge and understanding more actively and effectively.

A key sign for the achievement of personalised learning is the extent to which schools can create a continuing dialogue with pupils about their learning, so that they are engaged and motivated, enjoy their schooling, know their learning goals and can work and reflect together on what and how they learn. Leading in Learning is of major importance in establishing this dialogue, so that each pupil develops the self-esteem and confidence for active participation in learning within and beyond school.

Leading in Learning challenges the notion held by many pupils that learning is dependent on luck and that ability is fixed. Instead it teaches pupils that learning can be improved through the application of a range of approaches and strategies. It should help to move some pupils from a feeling of helplessness to one in which they feel they have some control over their achievement and learning trajectory.

The initiative is based on three cornerstones:

1. a strong research base into learning and cognition;
2. collaborative learning by groups of teachers;
3. systematic support across a whole school, backed by materials and consultancy from the Secondary National Strategy.

For the initiative to succeed, all three elements need to be firmly in place.

- Teachers wishing to go further into the history and research will find a short summary with key references in an appendix 2 of the *Key Stage 4 Handbook for teachers*, entitled 'The evolution of teaching thinking skills'.
- *The Key Stage 4 Handbook for teachers* is designed to support the establishment of collaborative networks of teachers to promote the explicit teaching and learning of thinking skills within and across subjects. Teachers focus on a particular thinking skill and then collaborate to connect lessons

across three chosen subjects using a common strategy. This collaboration greatly increases the chances that pupils will build cognitive structures and acquire a disposition that encourages transfer of learning.

- The full set of materials includes this detailed *Key Stage 4 Guide for school leaders* and a *Key Stage 4 School training manual*. They complement the Key Stage 3 materials that were published in February 2005 (0034-2005 G) to promote systematic involvement of teachers in all subjects to ensure a full pupil entitlement to the development of thinking skills.

Findings from the Key Stage 3 and Key Stage 4 pilots

The pilots were most successfully implemented in schools where the Key Stage 3 Strategy has been effectively embedded across the whole school through subjects and, for example, as a result of implementation of Assessment for Learning (AfL). This provides a platform for development that is built on an existing school culture of collaborative professional development and pupils' independent learning skills.

Considerations for whole-school implementation

Taking on an initiative such as Leading in Learning offers schools a well-documented and piloted approach that can be a key spur to school improvement. Teachers who work collaboratively on the initiative have much to gain, as do their pupils. But it helps if the initiative has some foundations upon which to build.

Schools will wish to consider when they might adopt Leading in Learning as a focus for whole-school improvement, depending on current and future priorities within their School Improvement Plan. These materials are a natural development of, and partner to, other Strategy initiatives. Such initiatives can therefore be seen as providing excellent preparation for Leading in Learning, for example:

- Leading in Learning is a natural extension for schools that have been focusing on teaching and learning through subject developments or use of the *Pedagogy and practice: Teaching and Learning in Secondary Schools* series of study booklets;
- a number of LAs have been developing coaching programmes: these can provide an admirable framework through which to support the development of the necessary pedagogy;
- where AfL is providing a driving force for change, the Leading in Learning lessons could enhance pupils' sense of themselves as capable learners.

See page 20 for detailed references.

Introduction

‘No curriculum can be regarded as acceptable unless it can be shown to make a contribution to the teaching of thinking.’

Robert Fisher, Teaching children to think (Blackwell, 1990)

Leading in Learning is a structured programme for teaching thinking skills in secondary schools. It takes a cross-curricular approach that is different from having separately timetabled lessons or programmes confined to a particular subject. The model is innovative in requiring collaboration across departments to teach an agreed thinking skill, using **3-subject cycles** based on a common teaching strategy. The cycle can involve between one and three lessons in each of three chosen subjects. For each lesson in the cycle teachers are asked, not to abandon their subject, but to set subject content in a context where the emphasis is on developing and discussing a selected thinking skill and how it might be used.

The approach is deliberately structured so that teachers and pupils look beyond subject confines to thinking and learning more generally. There is a focus on specific thinking abilities and metacognition to encourage systematic development of thinking skills and transfer of learning across subjects and to other aspects of pupils’ lives.

In order to achieve this, the Leading in Learning initiative aims to:

- help teachers to develop their practice through collaboration in the planning and teaching of thinking skills and in the development of a common language about thinking and learning;
- identify clearer patterns of pupils’ progression in thinking skills to inform future planning and teaching;
- support senior leaders in establishing a whole-school approach to developing thinking skills.

‘The focus on thinking skills proved a powerful catalyst for the systematic investigation of pedagogy and one that can promote dialogue amongst teachers regardless of subject or phase of education.’

Vivienne Baumfield, Director, Thinking Skills Research Centre, University of Newcastle

The Key Stage 4 materials

The Key Stage 4 materials complement those previously published for Key Stage 3 (0340-2005 G) and are intended to support schools that wish to launch Leading in Learning at Key Stage 4. The materials consist of the following:

Key Stage 4 Handbook for teachers. This is the essential planning tool for all teachers involved in the Leading in Learning initiative in Key Stage 4. The explicit focus of the Key Stage 4 model is the link between developing thinking skills and

improving pupil performance in GCSE coursework.

Key Stage 4 Guide for school leaders (February 2006). This document sets out a plan for starting Leading in Learning at Key Stage 4 and provides guidance on leading and managing the process. As experience of implementing this initiative grows, further supplements may be produced in the future.

Key Stage 4 School training manual (February 2006). This is for senior leaders in schools and LA lead consultants. It provides training materials (supported by the Leading in Learning DVD of video sequences) to support in-school staff development in Leading in Learning. As the model for implementation of Leading in Learning at Key Stage 4 develops it is intended to add more sessions to the manual.

In addition, the subject exemplification materials and set of ten posters that were produced for Key Stage 3 should also be helpful to teachers at Key Stage 4 in gathering ideas about how to apply the teaching strategies to their own subject and considering the relevance of thinking skills.

About this Key Stage 4 Guide for school leaders

This guide sets out a model for starting to implement Leading in Learning at Key Stage 4. It is designed to enable schools to start on a small scale with the cross-department approach, using some *Leading thinkers* on the staff. The following is a synopsis of the rest of the guide.

Teaching thinking skills in secondary schools describes the National Curriculum thinking skills and sets the context for the Leading in Learning approach.

Starting Leading in Learning at Key Stage 4 sets out a rationale for starting at Key Stage 4 and describes key features of the model.

Leading the development gives detailed guidance on the initial stages of implementing the programme with cross-references to the *Key Stage 4 Handbook for teachers* and the *Key Stage 4 School training manual*.

Where next? sets out options for development towards an entitlement for all pupils.

Selected references lists Secondary National Strategy materials that provide particular support to the Leading in Learning programme.

Teaching thinking skills in secondary schools

Points for reflection

What is the importance of teaching thinking skills to pupils' learning and to the standards they achieve?

What is distinctive about the Leading in Learning approach and what does it have to offer your school?

The National Curriculum describes five thinking skills to be developed across all key stages. The five skills are as follows.

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

The term 'metacognition' (thinking about thinking) denotes the reflective processes and higher-order thinking that involves active control over the cognitive processes engaged in learning. Pupils engage in metacognitive activities every day. For example, planning how to approach a given learning task, monitoring comprehension, and evaluating progress towards the completion of a task are metacognitive in nature.

'Pupils can be encouraged to reflect on what and how they learn, and how these skills can be applied to different subjects, different problems and real-life situations.'

'By using thinking skills pupils focus on "knowing how" as well as "knowing what" – learning how to learn.'

'Promoting skills across the National Curriculum' in *The National Curriculum: Handbook for secondary teachers in England 1999* (pages 22 and 23)

As pupils acquire information, ideas, skills, values, ways of thinking and the means to express themselves, they are also learning how to learn. However, pupils do not readily transfer their learning from lesson to lesson and often see little connection between lessons and their life beyond school. This has consequences both for the pupils' motivation and their ability to be independent learners. If pupils are to succeed as independent learners they have to know how to generate their own ideas, to acquire knowledge for themselves and to think independently. Every school aspires to help pupils achieve this, but few do so systematically. Too often, thinking skills or study strategies are presented in isolation, so that:

- it is left to the pupil to transfer the strategy to real settings;
- teachers lose the opportunity to share good practice across subject areas.

The secondary Leading in Learning initiative seeks to build on work already under way in the primary phase, a developing model with a collection of case studies available on the Thinking Skills section of the DfES Standards website. The building blocks of the current curriculum in secondary schools are subjects, taught by different teachers. However, there is no powerful medium for drawing subjects together into a coherent whole. In this context there is less opportunity for teachers to develop a shared language about learning. Yet subject progression does depend on the development of certain cognitive skills.

There is a spectrum of possibilities for developing a thinking skills programme. Programmes confined to a subject can make an excellent contribution to pupils' thinking and understanding of key concepts within that subject. Programmes involving discrete thinking skills lessons separate from subjects can facilitate an explicit focus on the thinking skills using a broad range of contexts. But, in different ways, both approaches leave open the issue of transfer and the need to engage all teachers and pupils in 'owning' thinking skills and making them a priority. The model offered by Leading in Learning seeks to capitalise on some of the advantages of both types of programme. It develops a cross-curricular approach which is clearly located within subject-specific lessons. Given sufficient commitment of time to collaboration between departments, it can be made manageable, coherent and progressive.

Findings from the Key Stage 3 and Key Stage 4 pilots

The pilots gained the commitment and enthusiasm of teachers. Leading in Learning retains a clear focus on subject knowledge and content, allied to approaches that enable pupils to access and engage with subject learning. Teachers found the recommended range of teaching strategies useful for collaborative planning and for making connections across subjects. They commented that involvement in the pilot encouraged them to raise the level of challenge in the classroom activities provided, and to offer more open-ended tasks. Where the lessons were successful, teachers reported that the time devoted to an explicit attention to thinking and learning was not detracting from subject content, but enhanced it.

Considerations for whole-school implementation

A feature of successful lessons in the pilots was that teachers enabled pupils to see beyond the classroom activity, and the particular strategy used, to their own thinking and learning processes. Many found that the support offered by LA consultants was instrumental in helping them to stand back from their teaching and develop successful approaches through a process of guided reflection and review. Participating schools will need to draw up clearly focused agreement plans with LA consultants so that internal school capacity to share approaches is enhanced.

The Leading in Learning programme promotes the systematic and explicit teaching of thinking skills in cycles of lessons across three subjects, known as the 3-subject

cycle. In this way, systematic coverage of key aspects of thinking skills can be assured, and ultimately these can become located in subject schemes of work.

Such a plan needs to be developed over time. Establishing a lesson model with a clear focus on thinking, collaboration and metacognition, developing collaborative planning cycles and engaging teams of teachers are essential steps towards embedding practice. The Key Stage 3 Leading in Learning programme begins with a trio of teachers from different subjects working with one class, including the maximum number of pupils in common. From this beginning, it aims to scale up eventually to an entitlement for all pupils with a planned progression in teaching thinking skills, increasing the degree of challenge as pupils move through the key stage. The following section sets out a rationale for schools that are considering starting the programme at Key Stage 4 instead of Key Stage 3.

Starting Leading in Learning at Key Stage 4

Points for reflection

Are there good reasons why you might start Leading in Learning at Key Stage 4?

At Key Stage 4, should you aim for entitlement for all or intervention for particular subjects or groups of pupils?

The explicit focus of the Key Stage 4 model, described in more detail below, is the link between developing thinking skills and improving pupil performance in GCSE coursework. Experience from the Key Stage 4 pilot suggests that starting at Year 10 is a viable alternative to starting at Key Stage 3, with useful benefits for the pupils and teachers involved. A teacher in the pilot commented:

'It became evident ... that pupils were beginning to recognise the importance of focusing on the skills involved ... and by using them across more than one subject were able to identify where the skills could be used in other lessons, coursework and within exam revision'.

A school may choose to implement Leading in Learning starting at Key Stage 4 because of:

- concerns about standards in coursework in particular subjects or more generally;
- concerns about the transfer of thinking skills to subjects not taught at Key Stage 3;
- broader concerns about the level of pupils' thinking, learning and study skills and the impact on standards;
- an appreciation that older pupils should not miss out on developments and that starting in Year 10 could be a suitable springboard for building an entitlement in the earlier years or through core subjects in Key Stage 4;
- an awareness of the need for greater bridging of thinking and learning skills as older pupils' experience and interest increasingly extends beyond the confines of school subjects.

The choice that a school makes – whether to start at Key Stage 3 or Key Stage 4 – has implications for how progression is developed but the intended endpoint will be the same, namely an entitlement for all pupils.

The Key Stage 4 model

The Key Stage 4 model has some similarity with that at Key Stage 3.

- It focuses on developing the five National Curriculum thinking skills.
- In order to maximise transfer of learning, it takes a cross-curricular approach that involves three teachers from each of three subjects working collaboratively on thinking skills lessons.

- It is based on a set of ten teaching strategies, eight retained from Key Stage 3 and two new ones particularly suited to thinking skills at Key Stage 4.

It also has some distinctive features.

- As a first stage, it involves analysis of strengths and weaknesses in coursework in the three subjects, with a view to identifying common aspects of thinking skills for development.
- It proposes a flexible model for a series of short or long cycles that involve up to three lessons in each subject, allowing for a particular teaching strategy to be used more than once in a subject. In the **short cycle, one lesson** is devoted **to each subject** so the cycle of three subjects is completed over three lessons, taking about two weeks. In the **long cycle, a sequence of three lessons** is devoted **to one subject** so the cycle of three subjects is completed over nine lessons and may take more than a term to complete.
- Teachers plan together, observe and review each other's lessons, with the added feature that the visiting teachers have very specific roles, one of which is to lead the plenary of the lesson (now included at Key Stage 3).

Selecting an approach

Having decided to start Leading in Learning at Key Stage 4, it is important to consider how the development might evolve, as this affects the choice of subjects for the initial 3-subject cycle.

- An **entitlement** approach might emerge in a school where it was felt that the programme would help to raise standards for all pupils, particularly where they had not experienced the programme in Key Stage 3. This would eventually involve scaling up to all Year 10 pupils, perhaps in the three core subjects.
- An **intervention** approach might emerge in a school with longer-term plans to provide entitlement for all in Key Stage 3. This might involve setting out initially to target a particular group of Year 10 pupils who it was felt would benefit most, or perhaps three departments where there were identified weaknesses in terms of coursework or other aspects of learning.

Experience from the Key Stage 4 pilot indicates that a trio of teachers would need to complete three short cycles or one long cycle of lessons in Year 10, spread over perhaps one to two terms, before extending to involve other teachers and classes. The next section describes the first steps in implementation and the final section addresses possible next steps towards an entitlement for all pupils.

Leading the development

Points for reflection

Where would you find existing good practice in teaching thinking in your school?

Which teachers in which departments are best placed to start the initiative and help lead subsequent developments?

Guiding principles

It is vital to get an overview of the main issues from a management perspective. From experience in the pilot some guiding principles emerged.

- Establish a small group of enthusiastic and forward-thinking teachers (*Leading thinkers*) 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 and transfer 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 be giving informed attention to the thinking skills.
- Strategy guidance on coaching is particularly useful as a model of support (*Sustaining improvement* 0565-2003 G). As teachers gain experience of teaching thinking skills they should be developed in their coaching skills in order to more skilfully support colleagues.

Roles and responsibilities

Key personnel in leading the development are the senior leader and a key teacher – one of the three *Leading thinkers* who will develop the initial 3-subject cycles. They will need to meet with the lead consultant for Leading in Learning to plan the implementation in school. Two further members of staff from different departments will be identified, forming a steering group of four staff in the school to lead the development.

The member of the school's senior leadership team will manage the process. This is a key coordination and management role, creating a link between the teachers involved and the school's senior leaders. There are significant resource implications for the programme and it requires some organisational flexibilities. A senior leader is the best person to facilitate these elements.

When selecting the trio of *Leading thinkers* consideration needs to be given to their professional skills and abilities. They are key players who will have a crucial role to fulfil over an extended period of time in initiating and embedding the model of collaborative planning, observing and reviewing.

Support from the LA lead consultant should be negotiated with care. The aim should be to keep this focused on helping the school to take responsibility for implementing the programme. Their input will be critical during the initial cycles. It is likely to

include:

- planning and delivering Trio training prior to establishing 3-subject cycles. The senior leader should be a participant in this training and two schools might consider joining together to facilitate networking;
- assisting the *Leading thinkers* in developing effective 3-subject cycles and improving their thinking skills lessons through planning and coaching sessions. The aim should be that the trio gain the knowledge, skills and confidence to play a key part in subsequent developments;
- assisting in planning for the subsequent developments.

Lead consultants will also be able to link schools into local networks and update them on national developments. Other Secondary National Strategy strand consultants might help teachers of specific subjects to contribute to the teaching of thinking skills.

Tasks and supporting resources

The following table sets out tasks and points to consider when organising and managing a 3-subject cycle. It includes references to the *Key Stage 4 Handbook for teachers* and the *Key Stage 4 School training manual*.

Note: in addition to the 'Trio training' sessions referenced in the table, the *Key Stage 4 School training manual* also includes sessions on 'Improving progression in pupils' thinking skills' and on 'Developing metacognitive plenaries'. These might be used with trios of *Leading thinkers* to develop their practice further. To support future developments further sessions will be added as the initiative evolves. These will aim to facilitate whole-school involvement, collaboration within departments and ways of working across departments.

Initiating 3-subject cycles

Leading thinkers are trained and teach three short cycles or one long cycle to selected Year 10 classes.

Critical to the first stage is the organisation of three suitable Year 10 classes, to include as many pupils in common as possible, and the provision of time for the *Leading thinkers* to plan together, observe and review each other's lessons.

Task	Points for consideration	References
Identify the senior leader who will lead the programme in the school	<p>The person will need to be a senior school leader who will:</p> <ul style="list-style-type: none"> gain a good understanding of the principles that underpin the Leading in Learning programme take responsibility for managing the budget devise and implement the monitoring process organise pupil groupings to make the 3-subject cycle possible ensure that teachers identified as the <i>Leading thinkers</i> have planning, observation and reviewing time keep the whole staff informed about the programme. 	<p>Initial reading:</p> <p><i>Key Stage 4 Handbook for teachers</i>, pages 4–42, plus skim a couple of the strategies</p> <p><i>Key Stage 4 School training manual</i>, pages 4–9</p>
Identify the three departments that will take forward the programme in its early stages	<p>If envisaging an entitlement model, with eventual scaling up to all pupils, English, mathematics and science may be the most likely combination of subjects</p> <p>If envisaging an intervention model, the choice might be:</p> <ul style="list-style-type: none"> three subjects where there are known weaknesses in coursework three subjects that will enable you to target an identified group of pupils. 	
Identify the trio of Leading thinkers who will join the senior leader to form the leadership group	<p>These will be teachers who:</p> <ul style="list-style-type: none"> are chosen one from each of the three departments are effective practitioners who make use of direct interactive teaching, plan objective-led lessons, use group work and recognise the importance of the plenary for metacognition are interested in developing thinking skills and are willing to engage in professional development that extends across subject boundaries. 	<p>Pre-reading:</p> <p><i>Key Stage 4 Handbook for teachers</i> introduction, pages 25–30 and the analogies strategy</p>

<p>Identify the target group of pupils</p>	<p>Identify three Year 10 classes that have the maximum number of pupils in common.</p> <p>Pupils who appear in more than one of the teaching groups should be used as a focus group to monitor the cumulative impact of the lessons.</p>	
<p>Establish links with the LA Leading in Learning consultant and prepare for the programme</p>	<ul style="list-style-type: none"> ■ At least one month before trio training, the senior leader and key teacher discuss the school's plan for establishing the programme with the LA consultant. They: <ul style="list-style-type: none"> - identify departments, <i>Leading thinkers</i> and Year 10 teaching groups (see above) - set dates, venues and leadership of trio training - notify <i>Leading thinkers</i> and agree support - arrange for the three teachers to analyse strengths and weaknesses in coursework in their subjects, prior to the first training session. ■ <i>Leading thinkers</i> and senior leader are trained by the Leading in Learning consultant. They: <ul style="list-style-type: none"> - explore the thinking skills, share outcomes of coursework analysis and agree a thinking skills focus to develop - explore the 3-subject cycle, choose between long and short cycles, discuss planning of thinking skills lessons, decide order of subjects and select suitable teaching strategies - establish structures for effective collaboration, including the roles of observing teacher and plenary teacher. 	<p><i>Key Stage 4 School training manual</i> Planning agenda: 3-subject cycle, page 9</p> <p>Coursework analysis task outlined in <i>Key Stage 4 Handbook for teachers</i> page 11 (first section only)</p> <p><i>Key Stage 4 School training manual</i> 'Trio training', pages 10–22</p>
<p>Inform all staff, participating pupils and their parents</p>	<ul style="list-style-type: none"> ■ Prepare a briefing for the whole staff on outline plans for implementing the Leading in Learning programme and arrange updates as appropriate. ■ Brief participating pupils about the programme, particularly the outcomes of coursework analysis and the thinking skills focus, and decide how best to keep them and their parents informed. 	<p>Draw on the <i>Key Stage 4 Handbook for teachers</i> introduction, pages 6–9 and 'Pupil information sheet' appendix 1.</p>

<p>Plan 3-subject cycle and manage progression</p>	<ul style="list-style-type: none"> ■ Confirm the order of subjects, agree the roles of observing teacher and plenary teacher and finalise the teaching strategy for the first three lessons. ■ Integrate the lessons into existing planned units of work with objectives that make specific reference first to the thinking skill and then to the subject. ■ Plan the timing and phasing of the lessons over a period of a week or two to allow for joint planning, observation, review, modification and monitoring. ■ Discuss how to develop progression in the thinking skill by linking lessons and increasing the emphasis on metacognition, particularly in the plenary. ■ Identify ways of eliciting pupil feedback. ■ Organise coaching by the Leading in Learning consultant. 	<p>Website subject exemplification</p> <p><i>Key Stage 4 Handbook for teachers</i> 'The 3-subject cycle', 'Improving thinking skills lessons', and notes on selected strategy Templates for 'collaborative planning' and 'lesson observation schedule' (appendix 1).</p>
<p>Monitor the process, including impact on pupils' learning</p>	<ul style="list-style-type: none"> ■ Decide how the Leading in Learning lessons and their impact on pupils' learning will be monitored, and by whom. ■ Consider ways of inducting pupils into the process of evaluating their own learning and any necessary documentation to support this. ■ After one long or three short cycles, pupils complete a piece of coursework in at least one of the subjects. ■ The three teachers evaluate the coursework against the thinking skills focus and points for development. 	<p><i>Key Stage 4 Handbook for teachers</i> 'Collaborative review'</p> <p>'Pupil review sheet' (appendix 1).</p>

Where next?

Point for reflection:

If the first 3-subject cycles have had a positive impact on the thinking and learning skills of selected Year 10 pupils, how should the school seek to extend the initiative to more pupils?

Extending Leading in Learning to Key Stage 3

As the benefits of Leading in Learning to Year 10 pupils become apparent, it will be natural to consider how the 3-subject cycles can be extended. A likely option is to seek the benefits that would accrue by starting the programme in Key Stage 3, building up to an entitlement for all pupils. The original *Guide for school leaders* (0036-2005 G), issued in January 2005, provides support for this process.

The phased approach illustrated in the *Key Stage 3 Guide for school leaders* starts with Year 7, followed by Year 8 and then Year 9. However, schools that have started the programme in Year 10 may want to work back into Year 9 first, considering Years 7 and 8 later. This should be perfectly feasible, provided the following points are taken into account.

- The Key Stage 3 programme focuses systematically on the five National Curriculum thinking skills, considering one at a time. As the programme extends into earlier years, it will be necessary to review coverage to ensure that it develops progressively for pupils as they move up the school.
- The Key Stage 4 programme will also need to be kept under review, to take account of the prior experience and more developed skills of new cohorts of pupils entering Year 10.

Planning a suitable programme for both key stages

With the provisos set out above, extension into Key Stage 3 might be approached as follows.

- Start 3-lesson cycles in Year 9, perhaps focusing on a National Curriculum thinking skill identified from coursework analysis, scaling up eventually to the whole year group.
- Ensure that all departments are aware of pupils' progress in the five National Curriculum thinking skills by the end of Year 9, especially those areas that have been the focus of development. Consider introducing projects bridging from Year 9 to Year 10, which bring together the five thinking skills within an extended enquiry or investigation. Such projects might be organised within subjects or faculties or collaboratively across two or three subjects.
- Extend the Key Stage 3 programme to Year 8 and Year 7.

Development at Key Stage 4 will depend on whether the school opts for an **entitlement** model or an **intervention** model. It will also be important to take account of changing needs as the programme becomes established in Key Stage 3. Whatever approach emerges at Key Stage 4, it will be important that pupils' developing skills as independent learners are built on in all subjects, including non-

Key Stage 3 subjects. Possibilities to consider include:

- scaling up the Key Stage 4 model of one long or three short cycles in Year 10, as appropriate. Ensure that all departments/faculties are aware of the outcomes of the coursework analysis and thinking skills focus for the 3-subject cycles, so that they can relate it to pupils' study in their subjects;
- ensuring that all teachers are aware of, and make effective use of, the ten teaching strategies included in the *Handbook for teachers*, many of which are suited to tackling challenging concepts, helping with revision and developing independent study.

Above all, encourage all teachers to continue a dialogue with pupils about learning and about how developing thinking skills is important in improving achievement in coursework and examinations and in transferring learning to different contexts. Schools that develop systematic, explicit approaches to teaching and learning thinking and study skills at Key Stage 3 and into Key Stage 4 will be extremely well positioned to successfully take on the developing agenda for the 14–19 curriculum.

Selected references

Secondary National Strategy

Pedagogy and practice: Teaching and Learning in Secondary Schools (0423-2004 G). Of particular relevance are:

- *Unit 5: Starters and plenaries*
- *Unit 7: Questioning*
- *Unit 10: Group work*
- *Unit 16: Leading in Learning*

Sustaining improvement: A suite of modules on coaching, running networks and building capacity (0565-2003 G)

Training materials for the foundation subjects (0350/2002), particularly these modules:

- *11 Principles for teaching thinking*
- *12 Thinking together*
- *13 Reflection*
- *14 Big concepts and skills*

Teaching thinking skills

A list of references is given in the *Leading in Learning Key Stage 4 Handbook for teachers*, appendix 2 'The evolution of teaching thinking skills'.