Pedagogy and Practice: Teaching and Learning in Secondary Schools

Unit 3: Lesson design for lower attainers

Senior leaders, subject leaders and teachers in secondary schools

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Designing lessons

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How to use this study guide

This study unit offers some practical strategies that teachers use to plan lessons for lower attainers. The techniques suggested are tried and tested; they draw on both academic research and the experience of practising teachers.

By working through this guide you can build your teaching repertoire step by step, starting with strategies that are easy to implement and moving on to those that will help pupils develop their skills still further. The unit contains 'reflections', to help you reflect on an idea or on your own practice, as well as practical tips and tasks to help you consider advice or try out strategies in your classroom. There are case studies to exemplify particular points, a summary of the research and some suggestions for 'next steps' and further reading. The final page invites you to reflect on the material and to set your personal targets for the future.

You can work through this unit in a number of ways:

- Start small; choose one class to work with. Ask another teacher to help by talking through what you intend to do and to act as a mentor.

- Work with another teacher or group of teachers who teach the same class. Work together on developing your approach to working with pupils who make slower progress. After three weeks compare notes. Discuss which strategies are the most effective and why.

- Find someone to pair up with and team-teach. Design the tasks together and divide the role of teacher in the lesson between you.

- Work with a small group of teacher-researchers within your school. Use the guide to help you focus your work as a professional learning community.

- Identify sections of the unit that are particularly relevant to you and focus on those.

There is space in this study guide for you to write notes and responses to some of the questions, but you may also find it helpful to keep a notebook handy. For some tasks, you might want to make an audio recording or video of yourself in action so you can review your work more easily. You could add this, along with any other notes and planning that you do as part of your work on this unit, to your CPD portfolio.

The evidence of work you gather in your portfolio could count as points towards accreditation of an MA, or could support your application for membership of a professional body, such as the General Teaching Council of England (GTCE). It could also be used to support an application to reach threshold or Advanced Skills Teacher status.

You will need access to video sequence 3, Lesson design for lower attainers, when working through this unit.

Lesson design for lower attainers

Contents

Introduction

Effective teaching of pupils who make slow progress

Pupils who make slow progress may continue to do so because they need to acquire the skills they have missed in order to access the curriculum fully. Typically, when pupils secure these skills, they:

- are able to fully develop their understanding of an idea because they now have the basic skills needed to access the necessary concepts;

- have appropriately high expectations of themselves;

- have gained basic literacy skills and are able to use them effectively;

- have developed the necessary numeracy skills for the subject being taught;

- have sound recall;

- make good progress.

Common issues

Pupils who make slow progress are often easily distracted and can also demonstrate off-task behaviour. They may have low self-esteem. They may find it difficult to learn new concepts and many struggle to understand what is expected of them. If they are taught in lower sets, they will not have models of high achievement in their peers and will consequently have lower expectations of themselves.

Because these pupils lack the skills they need to access the curriculum, they make little or no progress in most subjects. This effect is compounded as the lack of progress in any given subject results in further lowering of their self-esteem. In order to halt the downward spiral of low self-esteem and lack of achievement, work must be designed specifically for these pupils.

Resolving the issues

Planning to teach groups that include low attainers requires preparation. Attention needs to be paid to the development of literacy and numeracy skills in every subject, every lesson. It is important to highlight the aspects of each subject that need consistent attention in order to lift performance and ensure progression. For example, to move from level 3 to 4, pupils need to use precise subject terminology, be able to generalise and use the conventions of the subject. As pupils move from primary education to secondary, they are required to use more abstract ideas. These need to be presented to the pupils in small steps, building on the concrete examples with which they have become familiar.

What can you do to make the learning for these pupils more effective?

- Concentrate on the key concepts or ideas (e.g. the key objectives for English and mathematics, the yearly teaching objectives for science and ICT in Key Stage 3 and the key concepts for the subject at GCSE).

- Pay attention to the big picture and show how ideas fit together.

- Pay attention to developing the key skills of literacy and numeracy every lesson.

- Ensure the curriculum relates to the life experiences of pupils.

- Use a high proportion of interactive teaching in all lessons, including:
    - clear presentations and demonstrations;
    - modelling;
    - questioning;
    - appropriate challenge.

- Use 'assessment for learning' to help pupils understand what they are aiming for and what a high-quality response looks like.

- Use a structured approach to lesson design, planning lessons as a series of episodes. Lower-attaining pupils will generally benefit from having lots of starters and plenaries that review learning at regular intervals within each lesson.

1   Lifting performance within subjects

Looking at what pupils think helps them to learn

Pupils classed as 'lower attaining' are often the most difficult to keep motivated. It is therefore important to understand what motivates lower-attaining pupils to learn and what techniques you can employ in order to create motivation. As well as pupils' own motivation, there are other factors that help them make progress. See the summary of research on pages 19–21 for more on motivation and effective teaching strategies for lower-attaining pupils.

Pupils have their own ideas about what helps them to learn.

Increasingly schools and individual teachers are asking pupils what helps them learn. One department that did this through a questionnaire found that lower-attaining pupils gave different responses from higher-attaining pupils. Lower-attaining pupils were less confident and wanted more opportunities to be shown how to do something, through either demonstration or modelling. Higher-attaining pupils, on the other hand, preferred to be set assignments and then be given more opportunities to discuss their findings.

Watch video sequence 3a, which shows two groups of mixed-ability pupils (Year 8 and Year 10) talking about teaching and learning. Notice how they value personal relationships, interesting lessons, variety and structure. Talk matters to them, and the way in which a teacher interacts with individuals is seen as important.

You may think that much of what is said is predictable. Nevertheless, if questions are structured in the right way, such exercises can provide useful insights into what helps pupils learn. You might also like to watch video sequence 1c, which shows a teacher talking about structuring learning. It starts with some comments from the Year 10 pupils shown in video sequence 3a.

The following techniques have also been identified as helpful by lower-attaining pupils:

- having key words for the lesson on their desks or on the wall;
- saying new words out loud then having the opportunity to practise writing them in a sentence;
- analysing text together with the teacher;
- repeating a newly learned skill until they have mastered it;
- having a small part of the lesson that reviews work;
- being shown how what they are learning links explicitly with other work;
- being shown the big picture;
- having opportunities to visualise abstract ideas using model and analogy;
- getting immediate feedback on their work and praise for success;
- having the chance and time to improve their work and correct mistakes;
- working with a partner;
- making sure that much of the learning is related to real life;
- using writing frames to structure writing;
- using games and competitions to inject a 'fun' element;
- frequently setting tasks which guarantee success for pupils.

What else have you noticed about the way lower-attaining pupils learn best? Discuss the list above with colleagues. Are there techniques you would add?

Involving your own pupils in exploring the factors that help them learn can provide you with useful information that will enable you to tailor and target your teaching. You could ask pupils in a lesson, in a small group or through a questionnaire. You could try out some different ways of teaching an aspect of your subject and then have a class discussion on which they preferred and why. An example of a questionnaire that one school used to gain such an insight is reproduced in appendix 1.

Task 2	Classroom assignment: investigate your pupils' views on learning	30 minutes

Choose a class you feel comfortable with and investigate their views. You could adapt the questionnaire in appendix 1, design your own or plan some questions for a class discussion.

Analyse the responses and consider what you need to change in order to improve learning. Make a note of the points here.

When planning lessons, include:

More	Fewer
e.g. opportunities for pupils to discuss in pairs	e.g. long teacher explanations at the beginning of lessons

Planning to lift performance

When planning how to deliver the curriculum for lower-attaining pupils, it is important to know what needs to be taught in order to move them on. Understanding clearly the differences between levels and GCSE grades is important. You will be familiar with the National Curriculum level descriptions for your subject, and most teachers share these with pupils to help them understand what they are aiming for. The GCSE grade criteria for Grades A, C and F found in GCSE syllabuses can be used in a similar way. The research on 'assessment for learning' indicates that lower-attaining pupils benefit the most from being shown what they are aiming for (see unit 12 Assessment for learning).

At both Key Stage 3 and Key Stage 4, the level descriptions and GCSE grade criteria expect an increase in pupils' ability to describe, generalise, use subject conventions, use precise terminology, explain ideas which may be increasingly abstract, and apply, analyse and synthesise information.

Two teachers who were sharing the teaching of a bottom-set Year 8 group realised that pupils were not making as much progress as expected. They looked at the techniques that they were using to motivate their pupils and decided that this was not the issue because the pupils were motivated and generally well behaved. They then examined their medium-term planning and compared their teaching objectives with the thinking-levels chart above.

This made them realise that their planning did not allow pupils to access the higher-order thinking skills. They had given the pupils many opportunities to observe and describe events, using teaching objectives such as 'Pupils will be able to describe how …'. The pupils had not, however, been given the opportunity to explain any of the events they had described.

The teachers added further teaching objectives to their planning, for example 'Pupils will be able to explain …'. They then planned a series of activities designed to teach the pupils how to turn a description into an explanation.

Task 3

Planning review   1 hour

Pick out the medium-term plan for a unit of work that you will teach soon. Compare your suggested teaching objectives with the thinking-levels chart and judge whether pupils are being given the opportunity to access the next thinking level within your subject. Design two activities for the class that will help them move to the next thinking level.

You could discuss your planning with another teacher, either in your department or who teaches this class.

The big concepts

In all subjects from Key Stage 3 onwards, pupils are required to begin using more abstract ideas. Pupils who are lower attaining find the jump from using concrete examples to the abstract difficult. They need help in order to make this jump. Learning sequences that use small steps while still allowing pupils to see the big picture have been found to be very effective.

It is useful to know what the 'big concepts' are in a given subject. These are mapped out in the Frameworks for mathematics and English and in the yearly teaching objectives for science and ICT at Key Stage 3 and in GCSE syllabuses. To plan how to move pupils on to the next level, you should have a good idea of what the big concepts are in your subject area, and how they develop. The following task will help you to map this out, year by year.

Task 4	Map out the big picture	45 minutes

Take the programme of study for your curriculum area and any schemes of work that have been produced. Look across the years to see how the big concepts in your area are developed. Record the sequence of development as shown in the example for energy, one of five big ideas in science in Key Stage 3.

You will find it easier to lay the grid out in landscape format.

Year 7	Year 8	Year 9	GCSE
Use a simple model of energy transfer to explain that the Sun is the ultimate source of most energy on the Earth, e.g. pupils can use food chains as an example of energy transfer.	Describe how energy is transferred through conduction, convection and radiation. (No knowledge of particles is needed.)	Recognise the idea of energy conservation as a useful scientific accounting system when energy is transferred using concrete models.	Begin to understand that there is a relationship between energy transfer and other measurable factors, e.g. between kinetic energy, and mass and velocity.

These 'big ideas' need to be shared with pupils. One technique that can work well is to construct a concept map with pupils at the beginning of a new unit of work, showing how the unit will develop. This is then referred to at the beginning of each lesson, with the teacher pointing out on the map which part they are going to cover in that lesson and how it fits into the whole. Linking ideas together is often difficult for lower attainers; paying attention to this can move learning on significantly. This also has the advantage of providing a 'quick check' to see if pupils can remember what they learned last lesson.

2 Incorporating the teaching of literacy skills

Literacy skills are important in all subjects. Lower-attaining pupils often exhibit poor literacy skills, which means they are disadvantaged in accessing the curriculum. Subject departments need to incorporate basic literacy skills into their planning for these pupils. The following characteristics are typical of lower-attaining pupils:

- reluctance to write – and ploys for avoiding writing tasks;

- poor handwriting to disguise weak spelling;

- difficulties in understanding the language of written instructions and questions;

- problems with reading non-fiction texts, and with inference and deduction;

- inability to adapt writing styles to different audiences and purposes.

However, it is important to remember that not all pupils will have all these characteristics, and many will have some strengths, particularly in expressing ideas orally and through drama activities.

What's in it for departments?

Literacy is important in all subjects for many reasons.

- Through language we make and revise meaning.

- Reading enables us to learn from sources beyond our immediate experience.

- Writing helps us to sustain and order thought.

- Literacy supports learning. Pupils need vocabulary, expression and organisational control to cope with the cognitive demands of the subject.

- Responding to higher-order written questions encourages the development of thinking skills and enquiry.

- Better literacy leads to improved self-esteem, motivation and behaviour. It allows pupils to learn independently. It is empowering.

It can be very easy to address literacy skills at the same time as teaching subject content. For all subjects, a focus on both word level and text level is important. For each subject there is a set of specific technical vocabulary that it is important to grasp, and for each subject there are specific text types that pupils need to learn to read and to write for themselves. Short activities can be incorporated into lessons in order to develop literacy at both these levels.

Word level

Many classrooms have displays of key words around the room. This may make for colourful decoration, but for lower-attaining pupils it can cause confusion. The problem is that they do not know which words relate to their particular topic or unit. There are a number of techniques that can be used to promote a more active use of these words. All of the following ideas can be used as starter or plenary activities.

- Write the words on pieces of card. Each lesson, select the three most relevant words for that lesson and move them from the 'word bank' to be displayed next to the board or in some other prominent place in the classroom. Indicate to the class whenever the word is used in the context of the lesson.

- When using a worksheet or help sheet, always highlight the selected key words in bold and reinforce their use in the text.

- Give pupils personal workbooks in which they record new key words when they encounter them. The workbooks can then be used for practice. For example, ask the class to turn to the 's' page, then ask one pupil to pick a word from that page and another pupil to give you the meaning. A third pupil could be asked to make up a sentence with the word in context.

- Ask one pupil to select a word from the word bank and talk about it for 30 seconds without repeating themselves. The other pupils judge whether the talk is an accurate account of what the word means and how it is used. (This activity is best done towards the end of a topic or unit.)

- Ask one pupil to select a word and talk about it without saying what the word is. The other pupils have to guess what the word is from the description. You will need to model this technique first.

- Ask pupils to make up their own mnemonics for subject-specific terms.

- Play Blockbusters. Pick two teams, then ask Blockbuster-style questions using subject-specific vocabulary, for example in history: 'What D means a 10-year period?' This can be useful part-way through a lesson to help you gauge how much pupils have learned.
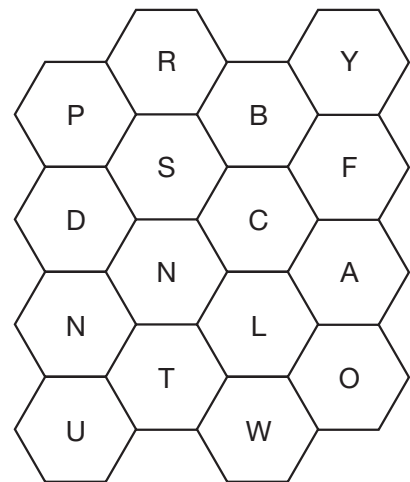
Loop card games have been found to be hugely motivational for lower-attaining pupils. For the teacher they give a quick check on progress and for pupils they help with word recognition and understanding of vocabulary. The trick is using them quite frequently throughout a topic, setting time targets to beat next time.

| Task 5 | **Using loop card games** | **15 minutes** |

Watch video sequence 3b, which shows a group of Year 8 pupils playing a loop card game. The lesson is science and the subject of the game is 'cells'.

When you have looked at the video, discuss with another teacher the advantages of using loop card games. Consider also the following questions:

- How often would I use them?
- Should they come at the beginning or end of a lesson or both?
- How much competition should I encourage?
- How do I help those pupils who struggle to read the words and definitions?

Text level

Lower-attaining pupils are likely to struggle with texts, in both reading and writing specific text types. Activities can be incorporated in lessons to support both.

Developing reading

These pupils often lack the skills of scanning and skimming, which can be explicitly taught within the context of the subject.

In addition, Directed Activities Related to Text (DARTs) provide a very motivating and accessible means of developing reading skills. They fall into two types: analysis, such as highlighting activities on complete text, or construction activities involving sequencing and synthesis of text parts (see unit 13 Developing reading).

Developing writing

Lower-attaining pupils have weaker writing skills than they do reading skills. There are two main approaches to developing writing that can be effectively incorporated into subject lessons that benefit understanding of the subject. First, however, as a teacher you need to be clear about which text types are important for your subject. Main text types include: instruction, recount, explanation, information, persuasion, discursive, analysis and evaluation, but there are others, such as writing a conclusion in science (see unit 14 Developing writing).

Modelling

This is the most effective method of introducing pupils to the conventions of text. Here a teacher shows how to construct a new text type, expressing their thinking out loud as they proceed, making the decisions explicit. It is also useful to use good and poor examples to tease out the conventions (see unit 6 Modelling).

Writing frames

These are attempts to scaffold pupils' first attempts at writing a particular text type and can help pupils structure their writing. For example, when supporting pupils' attempts to write explanations of 'how' and 'why', you might provide them with the following frames:

- explaining how: First, next, then, after, finally;

- explaining why: I want to explain why, because, however, in conclusion (see unit 14 Developing writing).

Case study 2

A Year 8 geography group was studying the effects of severe flooding in Bangladesh. The teacher realised that the pupils she was teaching had difficulty in engaging with the issues involved. So rather than ask the group to take notes from their textbooks, she asked them to prepare a 3-minute national TV news report describing the flood's cause and its effects on the local people. The pupils were very motivated by the task and set about researching all the information they would need. The resulting 'broadcasts' contained all the key messages the teacher wanted the pupils to learn. As well as providing the necessary motivation, the task also developed their skills of text searching and note taking.

A task on the teaching of literacy skills is incorporated into the classroom assignment at the end of the next section.

3 Developing numeracy skills

Lower-attaining pupils often have difficulty in processing data or describing patterns because of poorly developed numeracy skills. They do not easily transfer these skills from mathematics lessons and do not make links between the numeracy skills used, for example, in PE to those used in geography. Numeracy pervades all subject areas. The following evidence is taken from the *National Child Development Study on the impact of poor numeracy on adult life* (Basic Skills Agency 1997).

Is numeracy a problem?

The following points are taken from the section of the report, *Does numeracy matter?*

- Against expectation, the groups showing the lowest levels of full-time labour market participation among men and women were those with poor numeracy rather than poor literacy. (p. 10)

- As we might expect, those people in the poor numeracy + poor literacy group were most likely to be found in manual occupations. [But] … they were followed closely, not [by those] with poor literacy + competent numeracy but [by those] with competent literacy and poor numeracy. (p. 13)

- People without numeracy skills suffered worse disadvantage in employment than those with poor literacy skills alone. They left school early, frequently without qualifications, and had more difficulty in getting and maintaining full-time employment. (p. 27)

Reproduced with permission from the Basic Skills Agency.

Task 6

Numeracy in school subjects   15 minutes

Reflect on what the Basic Skills Agency found in their survey and choose one of the lower-attaining classes that you teach to focus on. Discuss with another teacher the characteristics of the class and their numeracy skills.

Identify three barriers that pupils may face in your lessons as a result of poor numeracy skills, for example poor number recognition or inability to represent data in different forms.

Defining numeracy

The *Framework for teaching mathematics: Years 7, 8 and 9* defines numeracy in this way:

> *Numeracy is a proficiency which is developed mainly in mathematics but also in other subjects. It is more than an ability to do basic arithmetic. It involves developing confidence and competence with numbers and measures. It requires understanding of the number system, a repertoire of mathematical techniques, and an inclination and ability to solve quantitative or spatial problems in a range of contexts. Numeracy also demands understanding of the ways in which data are gathered by counting and measuring, and presented in graphs, diagrams, charts and tables. Handling data is of particular relevance to all subjects.*

(Section 1, page 9 – DfEE 2001)

Task 7

Identify numeracy skills in your subject — 30 minutes

Note the definition of numeracy on the previous page, and obtain a copy of *Numeracy across the curriculum* from the numeracy coordinator. Use these to help you identify the numeracy skills you expect pupils to use in the next unit of work. Make a list, and for each skill ask yourself these questions.

- How confident are you that pupils have the skill?

- What opportunities can you build in to your teaching to develop these explicitly?

Task 8

Using numeracy skills — 20 minutes

The ability to read and interpret data and graphs is an important skill across all subjects. It is an area in which lower-attaining pupils often struggle, so it is particularly important to teach these skills explicitly.

In video sequence 3c, the teacher has planned a lesson in which she will ask pupils to collect data and then use them to plot a line graph. She takes the opportunity in the lesson starter to develop pupils' ability to understand the 'story of the graph' so that they will better understand the graph they plot.

Watch the video sequence and notice how the teacher uses real-life experiences to develop pupils' understanding. Note down two or three other real-life examples that you might use in this way.

For the next few weeks, the teacher shown in the video began each lesson by showing the class a different line graph, such as the graphs below. She then asked pupils to tell 'the story of the graph'.
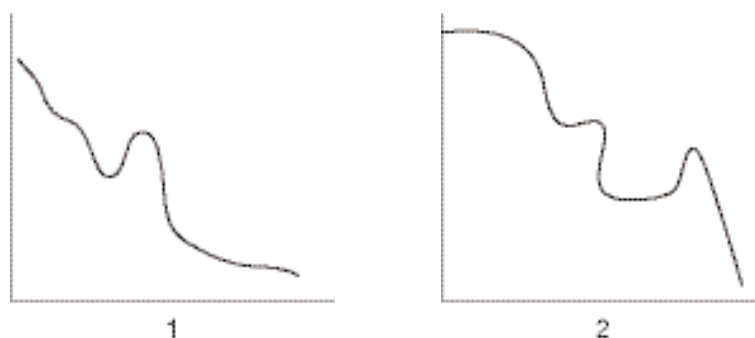
Pupils were allowed to be as imaginative as they liked, providing other pupils could not see a flaw in their 'story'. For example, graph number 2 could illustrate a pupil eating an ice-cream choc bar. The horizontal axis represents the time taken to eat the choc bar; the vertical axis represents the length of the choc bar. The bar has an unexpected increase in length – which is explained by the fact that the pupil sucked the ice-cream bar, making it longer.

By the end of the topic, pupils were more confident in constructing line graphs and explaining what they represented.

Task 9

Plan to integrate numeracy skills   **45 minutes**

Look back at the list you created in task 7.

Work with another teacher and plan how you can integrate the numeracy skills needed for the topic into your short-term planning. Refer to the *Framework for teaching mathematics* for examples of activities.

Task 10

Prepare support material   **1 hour**

Take at least one of the literacy ideas from section 2 and one numeracy idea from task 9. Prepare some materials for use in your lessons to support pupils' literacy and numeracy skills in your subject. For example, these could take the form of:

- a loop card game;
- key words and their meanings in the form of dominoes;
- a prepared graphical axis for pupils to tell you the 'story of the graph';
- data in tables for pupils to practise graphical representation.

Practical tip

It is important to incorporate literacy and numeracy skills into every lesson that you teach with lower-attaining pupils. Even a two-minute discussion on the meaning of a word will reinforce the importance of using the correct vocabulary in a subject context.

4 Techniques to aid recall

Lower-attaining pupils often have great difficulty in recalling facts. This puts them at a disadvantage when sitting tests. More importantly, perhaps, it makes it difficult for them to apply one piece of learning to the next. When pupils are required to apply learning to a new context, the problem is compounded if they cannot recall what has gone before.

In order for recall to be effective, it is necessary to review learning on a regular basis. Reviewing the content of every lesson is unmanageable, but in order for pupils to begin to process the information and thus commit it to long-term memory, starters and plenaries are vital. One way to get pupils to review a lesson is by making a diagrammatic representation of the key points. They can then turn to a neighbour and explain the key points using their diagram as a memory aid. The starter for the next lesson could use the diagram from this review, with pupils making the key points a different colour or turning the key words into a mnemonic or acronym.

What can be done within a lesson?

There is also much that can be done to make lessons memorable in the first place.

Create context: In lessons where pupils receive a lecture from the teacher then take lots of notes or complete comprehension exercises, the content of the lesson is soon forgotten. Pupils forget these lessons quickly because they are not actively involved. The brain remembers context much better than content. Put the content in an interesting context where pupils are actively engaged and it will be remembered much more readily.

Use starters and plenaries: Pupils remember more from the beginning and end of a learning experience than they do from the middle. Plan lessons with several different episodes, thus creating lots of 'beginnings' in order to improve learning and recall. Starters and plenaries do not have to occur only at the beginning and end of lessons.

Make it different: Boring and mundane experiences are easily forgotten. Conversely, pupils will remember the dramatic and the unusual. One science teacher tells of attempting to teach lower-attaining Year 9 pupils the reactivity series of metals. At a difficult moment during the lesson, she accidentally tripped over the hem of her lab coat and fell backwards. The pupils were rather shocked by this, but later in the lesson when asked to recall the first five elements in the series, all the pupils had no difficulty. When she asked them what had helped them to remember, they replied, 'seeing you lying on the floor'. There are less bruising ways of creating novel learning experiences for pupils and not every lesson can be different. Nevertheless, if you can find some different ways to put across key messages from the lesson, it will aid pupils' recall significantly.

Make time to think: Memory and understanding are two separate things. Pupils will remember information more easily if they understand it properly first. It is therefore worth investing the time and effort to make sure that pupils truly understand. In order to do this, the learning should be structured to ensure that the pupils are fully engaged and have time to think about what is being asked of them. They should also be allowed time to make personal meaning of new ideas, preferably with the opportunity to talk to each other about how they came to their understanding. Being able to explain *how* new learning was constructed is as important as *what* has been learned.

For more on starters and plenaries, see unit 5. For more on how to engage pupils in learning, see unit 11 Active engagement techniques.

5 Using assessment for learning to lift performance

Assessment for learning is clearly important for all pupils, but lower attainers can benefit significantly from knowing what they are aiming for because they are less likely to be able to 'leap ahead' and visualise outcomes in the way that many able pupils can.

It is generally accepted that teaching is much more efficient and effective when:

- the purpose of learning (lesson objectives) and the expectations (learning outcomes) are shared effectively with pupils at the start of lessons, and when tasks are introduced in episodes in a manner that they can readily understand;

- assessment to inform learning is embedded in the structure of the lesson;

- teachers check on pupil understanding at various points in lessons rather than assuming that they have absorbed the learning (traffic-lighting is one way of doing this, another is using ICT to 'vote');

- teachers adjust their teaching to take account of pupils' misconceptions and misunderstandings at the time rather than dealing with these issues later in order to 'cover the syllabus';

- time is devoted in lessons to clear demonstrations of the standards pupils are aiming for, showing examples (good and bad), discussing merits, modelling techniques and discussing what is expected (e.g. 'What I am looking for?');

- opportunities are provided within normal lesson time for pupils to use success criteria to generate their own work, to peer-assess and self-assess against criteria;

- teachers provide feedback (oral or written) that shows pupils when criteria have been met and what they still need to do to improve. Time spent in marking work can be reduced by providing pupils with the criteria in advance, and by making specific reference to them. Some teachers create comment slips explaining common mistakes to put into pupils work as appropriate;

- teachers provide time for pupils to reflect on how they are being assessed, e.g. by giving pupils Key Stage 3 mark schemes and test papers, and asking them to consider why a mark scheme will allow some responses but not others;

- teachers do not only provide written feedback in terms of grades or marks, which can be demotivating, time-consuming and confusing;

- teachers involve pupils in considering what assessment data tells them, e.g. deciding what is meant by a 'level 5' or a 'grade C at GCSE' and what they must do to achieve specific grades.

How do I measure up? 30 minutes

Make and fill in a grid like the one below, reflecting on the assessment procedures that you use with your lower-attaining pupils.

For Year 9	Time spent
Marking and recording marks for one class set of books	
Marking and recording marks for one class set of tests	
Assessing what pupils know during the start of each lesson for one class during one week	
Marking work with individual pupils during one lesson	
Working with groups of pupils on task during one lesson	
Setting targets for pupils based on the previous key stage data	
Going through the answers to the 'mock' end-of-key-stage test paper for one class	
Writing reports for one class	

Communicating objectives and learning outcomes

Sharing the purposes of lessons and making the learning outcomes explicit are important for all pupils, but there are particular benefits for lower attainers. However, simply writing an objective on the board and asking pupils to copy this down achieves little unless pupils understand clearly what it means. The objective should set the scene for the lesson and explain what the pupils will learn. Stems such as *know that …*, *develop …*, *be able to …*, *understand that …*, *explore …* are helpful. We can categorise learning objectives into five types (see unit 1 Structuring learning). These are:

acquiring knowledge *(know that …)*

acquiring concepts *(understand how/why …)*

acquiring new behaviours, learning skills and procedures *(be able to …, how to …)*

exploring attitudes, values and perspectives on a problem *(develop, be aware of …)*

developing creativity, personal growth *(explore and refine strategies for …).*

However, it is more important for lower attainers to be specific about the learning outcome you want from a particular task or activity. These outcomes need to include some notion of quality, in other words what is needed to produce a good result. This means sharing the criteria for success with pupils, perhaps using

phrases such as *it needs to include …*, *it will have three parts …*, *there will be a clear introduction that … .*

Shirley Clarke (2001) suggested that using the following structures and stems may help organise thinking:

Objectives: WALT   *We are learning to …*

Outcomes: WILF   *What I'm looking for …*

                    TIBS   *This is because … .*

So, given the following objective:

Identify regional differences that exist within a country.

you might say to pupils:

'What I'm looking for is that you correctly name and locate major regions within the country and give a detailed description of two regions, identifying the key human and physical features of each. This is because focusing on key human and physical features will give us a way of comparing regions in any country.'

- At the end of the lesson ask, 'What have you learned today?' and refer pupils back to the objectives.

Extract from *Unlocking formative assessment: practical strategies for enhancing pupils' learning in the primary classroom*, Clarke, S. (2001) Hodder Arnold H&S. © Hodder Headline. Used with permission of the publisher.

Case study 3

The teacher of lower-attaining Year 11 group realised that although when marking work she was continually providing explanations of how to record information effectively, few pupils were actually improving. Her solution was to copy the grade F and grade C criteria from the examination specification. She gave the pupils a copy of the grade F description, then every time she asked for a new piece of work she drew their attention to what the criteria said. She then involved the class in modelling an answer to the problem by referring to the criteria. Pupils were encouraged to be critical of the text and to point out when the teacher was recording an answer that did not meet the criteria. She then asked them to compare their 'class answer' to the grade C criteria and look for the kinds of response that would move from one level to the next. Sharing the criteria for the exam specification and modelling an answer became a regular feature of her lessons. This resulted in more focused responses from the pupils because they realised exactly what was required of them.

Involving pupils in self-assessment and peer assessment

If lower-attaining pupils are to learn, they need help in identifying gaps in their performance. Other pupils can be quite good at helping to find out why gaps in learning occur and finding strategies to help close the gaps. For this to work effectively, pupils must be comfortable about admitting mistakes. This requires an open classroom ethos as many lower-attaining pupils worry about the quality of their work.

Task 12	**Using criteria and peer assessment**	**30 minutes**

Providing pupils with criteria will help them understand what standard is expected.

Video sequences 3d, 3e and 3f show three examples (En, Sc and ICT) of pupils involved in peer assessment.

In the first example an English teacher provides pupils with a series of prompts to help them analyse each other's work. In the second, a science teacher has provided pupils with GCSE grade criteria for C and A, then asked them to use this to write an explanation of photosynthesis for homework. In both cases it was expected that following the peer review pupils would redraft and improve their work. In the ICT example, the teacher describes the criteria at the start of the lesson and helps pupils to consider how to improve during the lesson.

Other techniques that could be used include the following.

- Show pupils how assessment criteria have been met in examples of work from anonymous pupils.

- Ask pupils in pairs to review an anonymous piece of work against a set of criteria (e.g. level descriptions). Then conduct a class discussion on the standard reached and what feedback should be provided to help the pupil improve.

- Ask pupils to generate criteria for a piece of written work they are about to do: 'What do we need to include for top marks?'

- Ask pupils in pairs to mark a test (e.g. an end-of-Key-Stage-3 test) using the mark scheme and to discuss why an examiner could give full marks for some answers but not others.

- Following class work, provide pupils with a 'model answer' and ask them to assess themselves against it.

Select one or two of the techniques above or from the lists of self- and peer assessment ideas in the summary of research on pages 19–21. Try them out in the next unit of work you teach.

6 Putting it all together – structuring the learning

In this unit we have discussed the challenges of teaching a lower-attaining class. The following classroom assignment requires you to bring together a selection of techniques and produce a short-term plan that includes all the essential elements.

Task 13	Classroom assignment: putting it all together	40 minutes

Research suggests that lower attainers often benefit from lessons that are structured into a number of shorter episodes (see summary of research). These episodes will need distinct outcomes and may each require a mini-plenary. This classroom assignment will allow you to bring together a selection of the techniques outlined.

Lesson title:	Time:
Objectives and learning outcomes *What learning objectives do you plan to meet and what specific learning outcomes are you looking for?*	
Developing skills *How will you plan to develop literacy and numeracy, and support recall?*	
Assessment *How will you plan to provide pupils with feedback about what they need to do to improve, and how can you involve pupils in peer and self-assessment?*	
Vocabulary *How will you introduce key words?*	
Resources *What is needed during the course of the lesson to help pupils work independently when appropriate?*	
Episode 1: Starter *What will this include: will it focus on literacy or numeracy?*	6 minutes
Episode 2: Introduction *How will you share your objectives and learning outcomes with pupils?*	2 minutes
Further episodes *How many episodes will you divide the activities into and how will you plan to revisit learning at regular intervals?*	40 minutes
Final episode: Plenary *How will you involve pupils in assessing and understanding what they have learned?*	

Summary of research

There is some divergence in research evidence about the most effective ways to teach pupils who make slower progress. There is a body of evidence about the impact of very direct and structured learning, which breaks learning down into small sections which need careful teaching, practice and feedback. There is also a body of evidence about more radical approaches that aim to transform the learning potential of the individual. These two approaches do not need to be seen as in opposition as both may be needed.

Programmes focusing on pupil learning potential

A review of learning skills interventions (Hattie, Biggs and Purdie 1996) which looked at 51 studies reached a somewhat disturbing conclusion. They found that the effect of the interventions, which could be considerable, was greatest for middle-achieving pupils and those classed as underachieving. These groups are regarded as the most likely to benefit from such instruction. The review concluded that 'low-ability' pupils were unable to benefit from interventions of most kinds. The exception was Feuerstein's Instrumental Enrichment (IE) programme (Feuerstein et al. 1985), which would be termed a complex and radical programme.

IE was designed for culturally deprived, low-achieving Israeli adolescents. Feuerstein believed that thinking is a cultural tool transmitted from one generation to the next through high-quality interaction (or mediation) between adults and children. In this analysis low-achieving teenagers had missed out on such interaction with parents and family. The materials are deliberately rather abstract-looking (visual symbols and patterns) so that they are not linked in the mind of the pupil with previous school failure. There are 14 increasingly complex 'instruments' to be covered over two years. These start with relatively straightforward focuses such as detecting pattern and orientation in space and proceed in later instruments to complex reasoning and problem solving. The teacher plays a crucial role in maintaining attention, reducing impulsiveness, discussing strategies and bridging to mainstream curriculum contexts.

Research has shown a significant effect on IE groups in Canada, Israel, the USA and Venezuela, including educationally disadvantaged and lower socio-economic groups. However, the measure commonly used to study impact focuses on non-verbal reasoning, and substantial teacher training is required. A detailed evaluation of a trial in England (Blagg 1991) showed no effect on attainment, but there was evidence of an improvement in attitude and behaviour. Many reviewers are critical of the control of the training materials and processes – it is expensive and intensive. Shayer and Beasley (1987), reviewing the US and Israeli evidence, argued that IE had the potential to transform the training and skills of the teachers of less able pupils.

Another example of such an approach is reciprocal teaching (Palincsar and Brown 1984). This programme was originally designed for low-achieving pupils struggling with text-based tasks, although it was later adapted for a wider range of subjects and tasks. Like IE it is inspired by the work of the Russian researcher Vygotsky. Pupils are taught to work in groups using four behaviours that are characteristic of higher-achieving pupils – questioning, clarifying, summarising and predicting.

Direct teaching

In the other approach, direct teaching, there is a focus instead on the content to be

taught. The lesson should have a clear structure, so pupils can easily understand the content of the lesson and how it relates to what they already know. Many researchers recommend starting the lesson with review and practice of what was learned during the previous lesson, for example by going over homework. This will allow the teacher to find out to what extent pupils have grasped the content of previous lessons, and therefore to what extent this content will need to be retaught.

The objectives of the lesson should be made clear to pupils from the outset, with examples such as 'today we are going to learn about …', or through writing the objectives on the board or on a flipchart. During the lesson the teacher needs to emphasise the key points of the lesson, which may otherwise get lost in the whole, and a certain amount of repetition is helpful. At the end of the lesson the main points should once again be summarised, either by the teacher, or preferably by the pupils themselves, for example through asking them what they have learned during the lesson. Subparts of the lesson can usefully be summarised in the same way during the course of the lesson. Teachers must also clearly signal transitions between lesson parts, such as the start of a new topic or practice of the previous topic. All this not only ensures that pupils will remember better what they have learned, but will help them to more easily understand the content as an integrated whole with recognition of the relationships between the parts.

It is also recommended that teachers build a certain amount of redundancy into the lesson, in the form of repeating and reviewing general rules and key concepts, in order to help pupils understand and retain the topic. This is particularly important for more demanding topics or rules. Teachers would also do well to explain such demanding topics using a variety of media and methods, in order to help pupils with different learning styles (Rosenshine and Stevens 1986; Brophy 1992; Borich 1996; Reynolds and Muijs 2001).

Within this overall structure, it is recommended that material should be presented in small steps pitched at the pupils' level, which are then practised before going on to the next step. This allows pupils to gain a sense of mastery over the content and will stop pupils getting bored or losing the thread of the lesson. Information should be presented with a high degree of clarity and enthusiasm. Teachers need to focus on one point at a time, avoid digressions and avoid ambiguous phrases or pronouns.

Rosenshine (1983) suggests that in as much as pupils are younger, slower and/or have little background knowledge:

- instruction is more effective if learning is structured;

- there is a brisk pace, but instruction proceeds in small sequential steps;

- detailed explanations are given;

- many concrete examples are provided;

- many questions are asked;

- opportunities for active pupil practice are included;

- feedback and corrections are provided;

- a successful rate of 80% or higher in initial learning tasks is ensured;

- practice is continued to the point where responses are automatic.

'Teaching functions in instructional programs', Rosenshine, B. from *Elementary School Journal*, Thomas L. Good (ed) 83, 335–351, published by the University of Chicago. Used with permission.

Conclusion

Given that there are such different models for tackling low attainment, how are they reconciled? Peterson (1979) concluded that direct instructional teaching produces better attainment on standardised tests. However, what he calls the open approach is regarded as better for promoting creativity and problem solving.

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Next steps

This unit has explored an aspect of teaching and learning. You may wish to develop your ideas further, to consolidate, apply ideas in different contexts or explore an aspect in more depth and innovate.

Reflect

What have been the key learning points for you?

What has been the impact on pupils?

Here are some suggestions as to how you may develop practice further:

- Try varying the proportion of time you devote to supporting literacy, recall and assessment for learning in each lesson. Which has the most impact on your pupils? Is there an optimum?

- Explore the use of criteria and peer assessment, perhaps using different techniques across a range of classes over a sustained period, for example 6 weeks, and then review progress.

- Investigate further ideas about what your pupils think helps them learn. Ask them for some specific suggestions about what to include in a lesson, then plan these suggestions into a future lesson and involve them in evaluating the change.

- Investigate the impact of a sustained focus on developing writing skills on your pupils. You may wish to refer to unit 14 Developing writing.

For further reading, the following publications are recommended:

- Assessment Reform Group (1999) *Assessment for learning: beyond the black box.* University of Cambridge, Faculty of Education. ISBN: 0856030422.

- Assessment Reform Group (2002) *Working inside the black box: assessment for learning in the classroom*. King's College, London. ISBN: 1871984394.

- Black, P. and Harrison, C. (2001) 'Feedback in questioning and marking: the science teacher's role in formative assessment'. *School Science Review* 82 (June), 43–49.

- Black, P. and Wiliam, D. (1998) *Inside the black box: raising standards through classroom assessment.* King's College, London. ISBN: 1871984688.

- Goldsworthy, A., Watson, R. and Wood-Robinson, V. (1999) *Getting to grips with graphs*. ASE. ISBN: 0863573029.

Setting future targets

Having considered your next steps, you may wish to set yourself some personal targets to support your own continuing professional development. You could use these ideas to inform your performance management discussion.

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Setting your targets   40 minutes

When setting targets for the future you may want to discuss the possibilities with a colleague or your line manager.

Whatever you decide to do, you will need to consider the following.

- What are your objectives for the next year?

- What are the expected outcomes in terms of pupils' achievements?

- What strategies will you employ to achieve these outcomes?

- How will you track progress over the year?

- How will you know whether you have been successful or not?

Appendix 1

Questionnaire to investigate pupil views on learning

1 When do you think you learn best: at the beginning of a lesson, in the middle part or at the end?

2 Which of these help you learn best? *(Put a tick against those which are really helpful, and a cross against those which do not help you at all. You can leave any you are not sure about.)*
   - Being told what to do
   - Being shown what to do by the teacher
   - Copying notes from the board
   - Listening to the teacher explaining an idea
   - Watching a demonstration
   - Making models of things
   - Acting something out
   - Having to explain an idea to a partner
   - Writing your own explanation
   - Making notes from a textbook
   - Making a diagram which shows how things link together
   - Talking about ideas with others
   - Answering questions in class

3 In which ways do you prefer to work? *(Put 1 against your favourite, and then 2, 3 and 4 for your other choices.)*
   - On your own
   - With a partner
   - In a small group
   - As a whole class

4 Which do you prefer when your work is marked?
   - Just a mark or a grade
   - A mark or a grade with a comment
   - A comment which shows you how to improve

5 Think about the best lessons you have this year. What makes them better than the others?

6 What would your best classroom look like?

7 What advice would you give to a new teacher about teaching good lessons?

Thank you for completing this questionnaire.

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