C HAPTER 3

Promoting Thinking Skills Through Assessment

The Social Nature of Assessment

As human beings we like to be valued and recognized by others, especially if we value them. Indeed, we need such affirmations. We are deeply social, and what counts is how we see ourselves and how we think others see us. We choose friends who have similar interests, dispositions and who make us feel good about ourselves: they are interested and they make us feel worthwhile. In turn they interest us, and we make them feel of worth. Through subtle behaviours we affirm each other, and the pain is great when such relationships break down. Classrooms are built on relationships. We learn socially by participating in joint activities, in which learning is sustained through an emotional involvement.

The power of this need for approval is immense. Consider the lengths youngsters will go to gain the affirmation of their peers. And consider the impact which criticism can have on people's lives, especially when the individual concerned sees the criticism of their performance as being a criticism of them as a person.

When we look at assessment in this light, it is little wonder that it has such an influence on our children. By providing approval and affirmation, assessment can actually change our lives and make us who we become: it can shape us as people and give us confidence to act positively in the world.

Such a view recognizes that assessment is so much a social process. But it also recognizes the power assessment can have in shaping our interests and focusing our efforts. This drive for approval means that we will strive to meet the requirements of those things which we think 'count' amongst those around us. Thus in schools, many children strive to meet the assessment requirements of their classrooms and seek the approval of their teachers and the respect of their peers. Thus, for assessment to enable us to shape rounded and thoughtful individuals it should recognize each child's full range of abilities, encompassing those areas of learning which help make us what we are, such as our capacity to form positive relationships, our abilities to see things from various perspectives, and our vast range of potentials. In this we should develop forms of assessment which assess the knowledge, skills and attitudinal objectives which we value most in the curriculum: for instance, where co-operative skills and attitudes are priori-

tized, these must also be the focus for assessment. Further, assessment should acknowledge the complexity of each individual by considering their abilities and areas of difficulty in many ways and from many perspectives.

But assessment must not just be a source of external approval: it should support the development of children's internal drives to make meaning and succeed. It should nurture a love of learning for its own sake, and encourage learners to enter their learning with an intention to understand. To do this, children must be regarded first and foremost as 'partners in' rather than 'subjects of' assessment processes. Further, if we are to succeed we need to nurture children's development in a humane way: learners have a right to expect their dignity to be fully respected and every child has the right to be given a voice in matters concerning them.

Of course, we can do these things within the cosy confines of the classroom, but we have little influence on children's lives beyond school. However, if we are to reach out to the world, we must assess in meaningful, social contexts where assessment is an integral part of the activities of children and contributes to their success in achieving the desired outcomes of the activity. Much classroom activity can be individual and divorced from life outside school. However, environments most helpful to deep learning encourage co-operation and interaction with everyday and community concerns and experiences. Assessment which focuses on problem-solving, thematic enquiries and the like in co-operative contexts is therefore central to supporting the development of deep and transferable understandings in learners.

If learning is a journey, then assessment is like keeping a diary on that journey. We might ask what kind of relationship people should have with these diaries. For some the diary is simply a means of recording events. But many people have a far more positive and powerful relationship with their diaries ('Dear Diary … '), it is honest but understanding, critical but forward looking, reflective and transformational. This latter relationship is that which I believe children should have with assessment in their classrooms.

Principles for Promoting Thinking Skills Through Assessment

So, on the basis of the preceding discussion, there are a number of principles we can adopt for assessment which promotes the use of thinking skills.

1. For assessment to promote rounded and thoughtful individuals whose learning reaches out from the classroom to engage with the world:

    (a) teachers should make assessments which relate to underpinning curricular values, making these public, and not simply concentrate on what is easiest to assess. This will require teachers to develop new methods to assess attitudes, beliefs, understandings and skills;

    (b) teachers sometimes should assess the same knowledge in a variety of contexts, both schooling and other, and over a period of time, recognizing that context and time are issues. Such assessments can be collected in portfolios, providing both a richer assessment profile than a series of single assessment 'snapshots' and a basis for assessment dialogues between children and others;

(c) teachers should ensure that they use a variety of observational, oral, discursive and written approaches, including testing, to make both formative (offering guidance on how best to revise the teaching and learning process and on how best to meet the needs of the individual child within that process) and summative (offering a summary assessment of what a child has learnt at a particular point) assessments of learning. Each of these approaches should be recognized by all – children, parents and teachers – as being of equal value;

(d) children, parents and teachers should fully recognize the 'baggage', that is, the assumptions and limitations, that each assessment method brings with it and take these into account when interpreting data;

(e) finally, children, parents and teachers should consider all these approaches and issues when making overall judgements of student performance and school effectiveness in relation to teaching.

2. For assessment to encourage thoughtful approaches and deep engagement then we must:

(a) consider the process of learning and not just the product;

(b) engage in approaches which encourage children to explain and try to understand their reasoning;

(c) discuss problems so that children reveal their ways of thinking.

3. For assessment to promote a love of learning for its own sake, and to encourage learners to enter their learning with an intention to understand, and for assessment to be part of that learning process, and developing metacognitive and reflective approaches:

(a) children should be regarded as partners in the learning process and be involved in the appraisal of their own learning and understanding, having opportunities for extended assessment dialogues (both oral and written) with teachers and peers;

(b) teacher feedback needs to move beyond grading work (in which grades become an end in themselves) to encouraging a deep approach to learning with an understanding intention on the part of the learner. In this, teacher feedback should be dialogic and should promote a learning partnership with the child. This can result in negotiated focuses for student development coupled with agreed support, through a process of target-setting with children;

(e) self-assessment, which grows from feedback, must be modelled and coached with children, and at best engages learners in a metacognitive dialogue which goes beyond 'how did you think you did?' towards considerations such as:

(i) Which areas fit in well with other areas of your learning?

(ii) Where are there inconsistencies?

(iii) Which areas could you explain to another student?

(iv) How do these ideas fit with your experience away from school?

(v) How do these ideas fit or fail to fit with your own sense of yourself?

Such assessments might form part of a learning log, diary or journal;

(d) peer assessment adds a further important perspective and supports learners in positive identity formation. Additionally it allows the child's peers to reflect on their own position whilst contributing towards the child's appraisal;

(e) reporting should be clear, accurate, accessible and informative, attempting to be faithful to the complexity of child attainment and focusing on a learning partnership between the child, parent and teacher.

Do you agree with these principles? To what extent do they apply to your current context? Are there areas you feel you are addressing well and areas you are less sure about? In the following sections I consider how such principles might be adopted in practice.

Promoting Rounded and Thoughtful Individuals

There are times when structured assessment tasks are required to focus on the assessment of specific learning. The approach adopted will depend on what is to be assessed, but it is important that whatever is assessed a variety of approaches are used. So, for assessing the acquisition of knowledge, there are many well-known approaches including using:

- direct questions;

- multiple choice questions;

- sentence completion tasks;

- asking children to write in their own words, explain, and discuss consequences and implications;

- cloze exercises, where text about an area of learning is provided with key words missing. Children have to insert the correct words, which can also be provided in a list, or left entirely to the children to decide on the most appropriate word;

- concept or mental mapping, which can be produced by children prior to or following a particular study.

Similarly the application of knowledge can be assessed through providing problem-solving activities and investigations for children to tackle. However, it is important that these include problems and activities in a variety of contexts.

The assessment approaches listed above will be familiar to most teachers and are treated fully elsewhere, so I do not consider them further here. However, there are other important areas to be addressed when making 'rounded assessments' which are not so well covered, and it is to these that I now turn.

Assessing Attitudes and Beliefs

An area which deserves consideration is children's attitudes and beliefs. How might we assess these? One way is provided in Task 3.1. Try giving the attitudinal survey entitled 'What I think about school' to a group of children, either to be completed individually or in small groups. Following this, look at the children's responses: what do these tell you about their attitudes to school and the usefulness of surveys as a method of assessment?

This is a very simplistic approach, which might be useful in beginning a debate with children about their attitudes and beliefs but which is quite unreliable in assessing those attitudes and beliefs: as with any survey, findings depend on how seriously respondents have taken it, how they have interpreted questions, whether those questions were leading or misleading and how well the survey has covered the key areas. Figure 3.1 provides a categorization of beliefs which can be used in a more sophisticated approach to appraising children's beliefs about learning. Variations on the questions across the top of the taxonomy can be asked of the children, perhaps relating to different subjects and in different ways, and the children's answers categorized. Teacher–student conferences, which we discuss in a later section, provide a good opportunity for this.

Stage	Student focus	What they believe is learnt	How they believe it is learnt	How they believe learning is used
1	Students focus on doing the work without understanding	Students emphasize the need to follow instructions	Students learn by repetition and practice	Learning is used to do more work and to pass tests
2	Students focus on learning to complete the task	Students are a little less dependent, but little flexibility and easily set off course	Students learn by being shown and then practising themselves with coaching	Learning is used to do the things you learn to do – so you can work out how much things cost when shopping using mathematics or write letters to a pen friend using language work
3	Students focus on thinking about the task, on understanding and on solving problems	Students are creative, skilful and show care and pride in their work	Students learn through discussions, group work and individual reflection	Learning is used to help you when you are older and want to get a job
4	Students understand and analyse the task and their learning from it, they use their learning in other areas including investigations and solving problems	Students search for patterns, make generalizations and seek to understand situations	Students learn through enquiry and reflection, and must take responsibility for their own learning	Learning helps you see the world in a different way, like a scientist, a mathematician, a poet or an artist

Figure 3.1 Taxonomy of students' beliefs about learning

Task 3.1 Surveying attitudes

Give the following attitudinal survey about 'What I think about school' to a group of children to complete individually or in small groups.

Then consider:

1. What are the main findings from your analysis of the children's responses? Were there any surprises for you?

2. What is the value of this form of assessment? Do you feel the information it provides is accurate? Could it be improved?

How do you feel about these statements?	Agree	Neutral	Disagree
1. When I get up in the morning, I look forward to going to school.			
2. The children in school are nice to smaller children (about their work).			
3. My teacher usually has time to listen to my questions.			
4. When I am at home, I sometimes think of things to tell my teacher about.			
5. When I am at home, I talk about things I have been doing at school.			
6. I read to someone at home.			
7. I read to myself at home.			
8. I know what sort of work I am good at.			
9. My parents come to school and talk to my teacher.			
10. When I have finished my work at school, I usually know what to do next.			
11. My work is usually boring.			
12. Sometimes my teacher thinks my work is really good.			
13. When I need help, my teacher helps me.			
14. A lot of the work is too easy for me.			
15. When my teacher looks at my work, I feel good.			
16. I get stuck a lot.			
17. When my teacher shows my work to the class, I worry about what people will say afterwards.			
18. I am going to be good at school work when I am older.			
19. What you learn at school is important for you when you are grown up.			

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So, for example, when asked about some mathematical work in his conference with the teacher, Ben said, 'When we first learned to do these I was in Class 4. I just remembered what to do each time and then I'd be able to do all of the sums without thinking about them'. This comment shows Ben is focusing on doing the work by repetition without understanding and learning. These beliefs fall into Stage 1 of the above taxonomy.

Assessing Discursive and Co-operative Skills

A second area deserving consideration for assessment is discursive and co-operative skills. In the next section we will be considering teacher observation as a powerful assessment approach. During the process of assessment the teacher might be looking with a particular focus, and statements such as those in Figure 3.2 can provide a useful basis for categorizing observations relating to how well children speak and listen to each other and how well they work together in groups.

Stage	Evaluative criteria
1	Students are able to participate in group work of different kinds, understanding how to use talk purposefully in pairs and small groups and contribute ideas to whole-class discussions. When working in groups they should be able to take turns, and help to say what they have done.
2	Students can sustain different roles within groups with little intervention from the teacher. They can take the lead and draw ideas together. They can comment on how a task has been managed and reflect on the group's strengths and weaknesses.
3	Students can organize and manage collaborative tasks with minimal supervision. They can negotiate disagreements and ways of overcoming them, suggesting alternative courses of action, clarifying differences and putting ideas to the vote.

Figure 3.2 Taxonomy of students' discursive and co-operative skills

Source: adapted from the National Primary Strategy document QCA (2003) *Speaking and Listening Handbook.* London: QCA.

Assessing Learning Preferences

Finally, learners can benefit enormously from being aware of their own learning preferences. Task 3.2 comprises a questionnaire which can be used to begin this process. Remembering the expressed in relation to attitudinal surveys, this can be a useful starting point for self-evaluation and discussion, again in the context of teacher–student conferences.

Encouraging Thoughtful Approaches and Deep Engagement

Teacher and Pupil Observation

Observation is an important means of assessment because there is an emphasis on the process of learning. It involves:

■ looking at the way pupils go about their work and not just the products of their activity;

Task 3.2 Profile your learning preferences

Look at the following survey/questionnaire. How might this help you identify children's preferred learning dispositions? How useful would the information it provides be? What would you need to be cautious of?

What do you learn best?

1. Which of these do you find easiest to remember?

	Hard	OK	Easy
The way to a friends house			
Jokes			
The names of new friends			
Faces of relatives who live far away			
A new word			
Who won each race on last sports day			
How to use the photocopier			
A recipe you heard from a friend			

2. What do you find easiest to understand?

	With effort	Not too much of a problem	Easily
The plot of a story I am reading			
How to use punctuation marks in my writing			
How things work			
How to do mathematical problems			
Coming up with arguments for and against something happening			
Graphs			

3. What are you best at?

	No way!	I can do it if I have to!	I do well at this!
Creative writing			
Talking and giving my own views in discussions			
Resolving conflicts between friends			
Doing something again when I've made a mistake			
Playing instruments and singing			
Taking part in sports			
Working out mathematical problems			
Understanding and explaining how things work			
Painting and drawing			

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- listening to pupils ideas and trying to understand their reasoning;

- discussing problems so that pupils reveal their ways of thinking.

Observation has a number of advantages:

- It is flexible and can be used at any time.

- It does not interfere with normal classroom activities or take up time.

- It can provide information about behaviours of all kinds.

- It can be used repeatedly, giving constant feedback.

- Children are unaware of the process.

- It does not require special equipment or materials.

Opportunities for observation can be negotiated with the children. For example, the teacher might say, 'I am looking to see what you are doing and how you are learning, and will be carrying a red folder when doing this, so you'll know not to disturb me'. The children will pick up quickly what is happening, and often respond well.

When observing, teachers should focus on one group, a pair, or just one child for a short time. Observation should be purposeful, and the teacher should record what is observed. It can be:

- open, that is, non-judgemental, non-specific. Here the observer looks to see what captures the imagination of those being observed;

- focused, by looking at an individual child or at interactions between children in a group. The teacher might consider children's 'on-task' activity, their language usage, or their selection and use of resources, without particular categories to guide their attention. Thus the teacher can identify patterns;

- systematic, where categories are identified beforehand and the observations often focus on timed sampling of behaviour in terms of the prescribed categories.

Good Practice Point

Systematic Observation

The intention with systematic observation is that clear procedures can be followed by observers such that any observer should record a particular event in an identical way to any other. The reason for carrying out the observation is decided upon before the data is collected. This might relate to how the child carries out the task, how they work with others and/or the quality of what is said. The teacher observes the child over a 10–20 minute period, and uses the structured observation sheet to record observations (see Figure 3.3). Every minute the teacher writes down what the child is doing, and what is being said/what they are saying. This is written without interpretation. Following the period of observation the teacher can classify their recorded observations using specific categories and criteria relating to the observation focus. This focus might be in relation to children's discursive and co-operative skills (see Figure 3.2) or their level of thinking using the SOLO taxonomy (see Figure 3.5).

Child's name:	Gender: Age:	Date and time observed:	
What the child does	**What the child says and what is said to the child**	**Discursive/ co-operative skills**	**Level of thinking**
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Figure 3.3 Blank structured observation sheet

Teacher Questioning to Assess Student Thinking

I have already suggested that teacher questions act as controlling moves in conversations, steering them in one direction or another. However, if used carefully they can be an important tool for teachers in gaining insight into children's thinking processes. They should be used with caution because:

■ only one child generally answers at a time. This can be avoided by:

  – giving children time to respond, discussing their thinking in pairs or in small groups

  – giving choice between answers and asking children to vote

  – all children write an answer, and the teacher reads a selected few;

■ some children can be passive whilst others answer all the questions. Thus, targeted questions, accounting for attainment, should be asked of specific children;

■ overlong question and answer sessions can lead to unrest and disruption.

Good Practice Point

Extending Children's Answers

Questions often produce short, limited answers. To extend these:

● ask 'open' rather than 'closed' questions;

● ask children to elaborate;

● repeat or 'echo' their answer;

● add a contribution from your own experience;

● clarify, suggest, reflect, add more information and speculate.

Children's thinking activities for specific aspects of their purposeful thinking can be explored using the prompts in Figure 3.4.

Further, the level of children's thinking in their responses to broader conceptual questions, whether written or oral, can be analysed using the Structure of Observed Learning Outcomes (SOLO) taxonomy[1] (indeed, the SOLO criteria can also be matched to statements in observation records to describe the quality of discourse in relation to levels of thinking). An adapted version of this taxonomy is summarized in Figure 3.5, and below I provide a case study of how it might be used.

Thinking purpose	Related activities	Examples of questions
Descriptive: searching for meaning	Sequencing, ordering, ranking Sorting, classifying, grouping Analysing, parts-whole, compare-contrast, similarities and differences	What is the best way to order them? What do we need to know about them to order them? How are these items similar or different?
Critical judgement: going beyond the information given	Making predictions, hypothesizing Drawing conclusions, reasons for conclusions Distinguishing fact from opinion Determining bias, reliability of evidence Relating cause and effect, designing a fair test	What might happen? What evidence indicates this? What conclusions can you reach here? How do you know you can believe this? Why should I believe you? What might have caused this to happen? Have you tested this fairly? Are there any other explanations? How might we test them?
Creative: suspending judgement	Generating ideas and possibilities Building and combining ideas Formulating own points of view Taking multiple perspectives and seeing others' points of view	What alternative ways can we approach this problem? What things are stopping us in each case? How have other people tackled this? Why have they tried things differently?
Problem-solving and evaluative	Identifying problems Thinking up different solutions Testing out solutions Planning	What do we need to do here? What is stopping us from doing it? What options do we have? What other things do we need to consider?
Decision-making	Making decisions Generating options Weighing up pros and cons Reviewing consequences	What are the priorities here? What are the consequences of each option? Which option balances pros and cons? Which option provides the best solution?

Figure 3.4 Questions relating to specific thinking activities

Stage	Descriptor	Evaluative criteria – features of responses
1	Pre-structural	Confused or irrelevant responses; Responses do not relate to the question (does not remember question, says 'I don't know', restates the question, makes a guess as to what response is required); wish to finish quickly without even considering the problem.
2	Unistructural	Makes use of one relevant point or feature; generalizes in terms of one aspect; finishes quickly, conclusions inconsistent, and jumps to conclusions on one aspect.
3	Multi-structural	Involves two or more relevant points or features but does not link them which may result in inconsistency especially when drawing conclusions; generalizes in terms of a few limited aspects.
4	Relational	Involves and relates two or more relevant points or features and gives an over-all concept or principle; generalizes well within a given context. No inconsistency within context, but may be when going into other contexts.

Figure 3.5 The SOLO taxonomy

CASE STUDY

Using SOLO

As an example of how this taxonomy might be applied, I consider children's responses to the question, 'Were children's lives good in England in Victorian times?'

At the lowest (pre-structural) level children provided irrelevant answers such as, 'Of course not. They didn't have televisions or anything like that. It must have been so boring.'

In a unistructural response the child's point of view is supported by only one piece of evidence. So the child might say or write, 'Children's lives were horrible. They had to work from 6 years of age and had terrible conditions. They worked for long periods of time and their jobs were very dangerous. Some children were killed. Nowadays we don't have to do that. We are lucky, we can go to school.'

Multi-structural responses include two or more pieces of unrelated evidence to support the child's point of view. Thus the child might say, 'I don't think that children's lives were good because they were beaten and treated badly. In Victorian times people were very strict. In school you had the cane and had to wear a dunce's cap if you were naughty. Also children had to work, and the jobs were hard, dirty and sometimes dangerous.'

Finally, at the relational response level points are presented from both sides of an argument. Thus the child might write, 'In Victorian times children were treated like adults. Poor children had to go to work and rich children spent very little time with their parents. They even dressed like grown ups. They were sent away to school. Poor children sometimes had dangerous jobs, and many were killed, but some factory owners were kind and fed the children. Some took in orphans from the streets of the cities and gave them jobs in their factories and gave them a bed in a house nearby. I don't think it would have been as much fun being a child then.'

There is a fifth level within the SOLO taxonomy, the extended abstract. In this the learner considers many features and relates these to each other and to abstract principles. However, as this applies almost entirely to older learners, I have not included an example of it here.

Metacognition

If we are serious about developing learners who are internally driven to want to learn, and whose intention in learning is to make meaning and develop their understanding, then we must encourage them to exert control over their own learning. The process of reflecting on and controlling our own learning is called metacognition, and involves the following processes.

Preparing for Learning

To prepare themselves for learning, children can consider the nature of the learning task, the situation in which the task and learning is taking place and the ways in which success in the task will be appraised and learning assessed. Thus they might:

■ think of possible learning goals, the ways in which they will go about the task, the resources they will need, the time they have and their existing prior knowledge;

■ decide on a plan of action based on the above information.

Monitoring, Testing and Diagnosing

During the learning process, children will appraise whether things are going according to plan. This will involve:

■ monitoring whether the learning process is actually taking them in the right direction (identifying areas they do not understand, which are not clear, which contradict other information they have, which do not fit with their experience, and so on);

■ testing or checking whether they understand something thoroughly, for example, talking themselves through it, teaching it to someone else or trying to apply it to novel situations;

■ diagnosing the gaps in their knowledge and mastery by, for example, considering why they are finding something difficult.

Adjusting

This involves the learner returning to their initial learning plan and making changes in the light of monitoring, testing or checking and diagnosing. This might lead the learner to:

■ ask for help;

■ pay extra attention or return to aspects of their learning;

■ widen their knowledge base;

■ changing their learning goals;

■ spend more time on some areas of learning whilst skipping others.

Evaluating and Reflecting

Finally, we might ask whether the planned learning goals were achieved, whether other unplanned learning goals were achieved, by what process this happened and whether it could have been improved.

Linking Metacognitive Approaches to Assessment

Assessment is a powerful arena for the promotion and use of metacognitive processes. In the following sections I describe some common assessment practices, illustrating how they can be subtly adapted to provide opportunities for children's metacognitive processes.

Learning Intentions

We cannot plan learning activities without considering the kind of things we would like children to learn from them. These intended outcomes are referred to here as learning intentions. In recent years much has been made of the role of learning intentions in facilitating teachers'

formative assessment and children's self-assessments. But it is important that we also encourage children to formulate their own intentions for their learning, and this is often missed in suggestions for good practice.

Good Practice Point

Whose Learning Intentions?

For many teachers, their formative assessments address how well children have met the particular intended outcomes planned for activities and lessons. However, learning is a complex process, and children may learn in ways which teachers can neither foresee nor determine. Nevertheless, sharing teacher intentions with children at the start of lessons can have a number of benefits. It helps children to understand the rationale for their work and allows them to evaluate the extent to which learning tasks address the learning which they are designed to address. It therefore increases child ownership of learning tasks and, as a result, children tend to be more engaged in tasks, persevering for longer and wasting less time. As a consequence the quality of student work improves.

However it is also important that we engage children in a dialogue about the intentions they have for their own learning. This might be in the form of reflecting on targets which they have set for themselves or negotiated with their teachers or, as a result of a consideration of how they feel about an area of learning already, identifying what areas they now need to address.

Further, by engaging in a dialogue with children around learning intentions and the actual learning resulting from engagement in particular tasks, both peer and self-assessment skills can be developed. The use and discussion of teacher marking which focuses on evidence for the achievement of particular learning intentions can support this process.

Teacher Feedback and Marking

Marking is important because it is a direct form of written feedback relating to the product of children's work, resulting from the planned lessons.

Feedback is sometimes one way, with the teacher providing an expert judgement which is accessible to the learner, who is given time to read, reply to and act upon comments. However, it is more effective when the work is marked in partnership with the child, and this should be the case whenever possible. This partnership supports the learner in developing their skills of self-reflection through a collaborative dialogue. It involves processes such as:

- making connections between what has been learnt in different contexts;

- reflecting on one's own learning and learning strategies;

- exploring how the learning contexts have played a part in making the learning effective;

- setting further learning goals;

- engaging with others in learning.

Good Practice Point

Ways of Making Effective Use of Teacher Feedback and Marking

1. Feedback and marking are often more useful if:

   (a) they are based on both the teacher's and the child's clear learning intentions (see previous section) before considering achievement beyond the learning intentions;

   (b) children are asked to produce self-evaluations first (or to peer mark in pairs – see later). This can be encouraged using questions such as:

   (i)   What did you find easy?

   (ii) Where did you get stuck and what helped you?

   (iii) What do you need more help with?

   (iv) What are you most pleased with?

   (v)   Have you learnt anything new?

   (vi) How would you change this activity with another group?

   (vii) Do you have any questions?

2. Extensive marking should only be given to longer or more complex pieces of work, not to every piece of work. When possible, feedback should be given orally. In this:

   (a) consideration can also be given to the child's self-evaluation;

   (b) the future learning goals in the form of targets and support to meet them are negotiated.

3. Feedback should not be in the form of grades:

   (a) Areas of success and for improvement can be highlighted.

   (b) Suggested strategies for improvement are provided.

   (c) Achievable short-term targets or 'next steps' to be met are suggested.

Good Practice Point

Some Specific Considerations in Relation to Children's Writing

1. When marking extended writing, identify two good parts of the work and one for development. Ask the child to do the same (perhaps on a photocopy). Discussion and comments can then relate specifically to these particular sections.

2. Teacher comments on written work will focus on developing a critically reflective dialogue by raising questions and making suggestions.

3. Comments addressing secretarial (including presentational) features of student work should be limited to a few features and be based on identified learning intentions.

Teacher–Student Conferences

Conferences are focused conversations between teachers and children about particular pieces of children's work. They can focus on providing a negotiated assessment of the work, and they also enable children to learn from their own reflections and allow teachers to model and support this. Regular short one-to-one conferences with teachers have been found to be more helpful than fewer longer ones.

Good Practice Point

Managing Teacher–Student Conferences

Remembering the effects of teacher control on their conversations with children and therefore on children's thinking, it is important in conferences that teachers let the children lead the way. An open question might begin the process, such as: 'can you tell me something about this work?' or 'can you tell me the story of this work?' Whilst listening to children, the teacher might:

■ check they have understood the sense of what the child is saying by repeating the child's phrases and asking if that is what they meant, by asking what they meant – can they say it in a different way – and by asking for clarification on uncertainties;

■ draw attention to something they feel is relevant;

■ respond to and so encourage the child to say more, to go on with the train of thought;

■ extend the sense of what the child has said by prompting the child to recognize patterns, make links, and recognize the consequences and implications of their assertions;

■ notice a possible error, inconsistency or problem which the child has overlooked and prompt the child to look again;

■ offer reassurance, praise, or other encouragement, either to celebrate what has been achieved or to motivate the child to persevere.

Conferences are models of critically reflective thinking. Of course, the more often children engage in such conversations, the more skilled they will become and the less reliant they will be on the teacher's support. To reinforce this it is worthwhile to, initially, following a conference, ask the child to write a report on the critical reflections which arose in the conference, but later, as the child becomes more experienced, ask the child to produce such a report before the conference to act as a starting point for this.

These conversations are learning processes because, as the child is reflecting upon their work, they are, amongst other things, clarifying ideas, identifying links, making new understandings and recognizing and trying to resolve contradictions. Thus, children are changing their perspective on their work in the course of the conference. The teacher's supportive interactions further help this process by prompting the child's own reflections to address these areas and by modelling the process when necessary. This is a process of supporting the development of the child's own reflective internal dialogue to further their learning.

Use the conference summary sheet in Task 3.3 to record the outcomes of a conference you have conducted. At the end of the conference, a few areas can be highlighted by both teacher

Task 3.3 Teacher–student conferencing

Use the blank conference summary sheet below to conduct a conference as described in the main text.

Name:	Class:	Date:
Area	**Student comments**	**Teacher comments**
What have I done well in my work? In which areas of my learning could I improve? Which areas of my learning could I explain to another person? Which areas of my learning couldn't I explain? Which areas can I make use of elsewhere? Which areas of my learning do I still need to practise using in class? What do I need to learn next?		

Negotiated targets:

■

■

■

Signed (teacher):	Signed (student):

Write your own reflections on the process of conferencing, including:

■ How willing were the children to reflect?

■ How difficult was it for you to let the children lead the way?

■ How reflective and how descriptive were the comments the children eventually made?

■ Which strategies were most effective in encouraging children's engagement and reflection?

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and child as being of particular significance. Short-term achievable targets can be negotiated for these areas, and the teacher and child can discuss the means available (resources, opportunities, people) to support the child in working towards meeting these targets.

Peer Assessment

As with conferences, peer assessment is an educative process: an opportunity for thoughtfulness, reflection and profound thinking. Concerns about honesty and trustworthiness in peer assessment have to be weighed against sensitivity about self-esteem and confidence levels of the people receiving the feedback.

Good Practice Point

Ways of Introducing and Making Use of Peer Assessment

1. Children need training in peer assessment. This is best done in a small group, with the teacher modelling the role of the peer assessor with a specific example of student work. To do this the teacher follows the process outlined in 2 below, making clear their thoughts and, in particular, the thinking processes leading to decisions and judgements. One at a time, the children can then take turns to be the teacher with the teacher supporting them.

2 Ground rules need to be established in groups. Essential prerequisites include: all in the group must listen, there should be no interruptions, and both confidentiality and sensitivity should be maintained. Other important rules include:

   (a) group members should take turns to point out what they like first (and highlight these) against the learning intentions, whilst the child who produced the work listens;

   (b) taking turns in the group, children might then say, 'I agree with another member's assessment because … ' or 'I disagree because … ', as well as adding new viewpoints including some points for development;

   (c) in all, three positive features should be identified for every one requiring improvement;

   (d) after all members have contributed the child who produced the work can respond.

3. Paired or partnership oral marking involves children choosing a suitable partner with whom to discuss their work and comment on each others' work. Partners should trust each other, and should not include pairs who are both low-attaining children.

4. In the paired model, the assessor can be called a response partner. They are someone who:

   (a) talks about the child's work in relation to the specific success criteria;

   (b) makes the child feel good by pointing out what they have done well;

   (c) suggests to the child how they could improve their work.

Student Learning Diaries

Student learning diaries about their classroom learning experiences are important because they can be used to provide feedback from the child's perspective, and can help in identifying individual student problems. They can contribute significantly to increasing student motivation, enjoyment and understanding.

Essentially the diary, which should be completed regularly and whenever the child wants to, becomes a private conversation between the teacher and the child. It also acts as a basis for children's developing self-evaluative skills.

Children need support in learning how to use the diaries. These should record children's views and feelings about their experiences of learning. Training will include negotiation with the children to agree:

■ who will have access to the diaries – normally only the teacher who will keep the contents of the diary confidential (see issue 3 below);

■ whether the teacher will have access to the whole diary or only part of it;

■ whether access should ever be shared with other children or not – if, for example, a shared anxiety is raised;

■ how often diaries will be written in by children (normally daily or every two days) and read by teachers (normally weekly or fortnightly);

■ how the teacher should respond to their comments – normally by writing in the diary, but sometimes also by writing somewhere else, talking with the child or in some other way;

■ any other issues raised by the children.

Diaries normally develop through use and through the way in which they are dealt with and responded to by teachers. Where child comments are valued and acted upon, and where diaries are seen to be important to teachers, children value them and use them appropriately.

Good Practice Point

Issues for Consideration with Diaries

1. Diaries are a two-way process, with teachers raising issues and thoughts with children as much as children do so with teachers.
2. It is necessary to give diaries time to work, because a rapport and sense of trust needs to develop between child and teacher.
3. It is important to consider as a school how the teacher should respond to personal issues or areas of concern revealed in the diary. Children should know that teachers may have to seek advice or talk to others if they are overly concerned about anything revealed in the diary.
4. Diaries also provide an opportunity to explore areas of understanding with children. This can be initiated by a child raising areas of confusion or misunderstanding with the teacher, or by the teacher informally asking the child about their thoughts in relation to a particular area.

Student Portfolios

A portfolio is a product, a document which records a range of assessment information from a wide variety of contexts (such as that indicated in this document). Portfolios are important because they:

- provide a summative record of achievement which includes consideration of the process of learning as well as the product, the progression of learning over time and the influence of context on learning;

- provide personal knowledge and promote positive attitudes (greater insight into themselves as learners; a feeling of greater control over learning; increased motivation to inspire future learning);

- develop personal skills (improved communication skills, increased confidence in articulating personal ideas and achievements);

- and contribute towards the school's evaluation of teaching and curriculum organization.

A portfolio is a collection of work which:

- acts as a basis for and record of student self-evaluation and reflection;

- provides an opportunity to portray the processes by which the work in the portfolio is achieved;

- includes assessment of performance in real situations.

Profiling is the process by which the portfolio is produced: individual reflection, self-assessment, review discussions to evaluate attainment, acknowledge success and failure, and discuss performance in relation to learning outcomes. This can result in target–setting and action planning.

Good Practice Point

Ways of Developing and Using Student Portfolios

1. During the course of the year, collect together significant work from each subject, each in a separate folder, arranged temporally to show development and progression.
2. Work could include formative assessments such as teacher and student marking, student self-evaluations, conference records, peer assessment discussion summaries and redrafts.
3. At particular times during the year, children should consider the work in their portfolios, recognizing and evaluating their own progress and development, and setting longer-term targets for improvement in each subject area.
4. The portfolio can also include records of other, non-academic, achievements such as sports certificates.

Reflection Point

A Note on Student Self-assessment

Self-assessments based on simple questionnaires, asking, for example, 'what part of the work did you find easiest or hardest', tend to be descriptive rather than reflective and evaluative. It is only through supported opportunities for reflection such as those described in this chapter that children can learn to develop a reflective approach.

Similarly, without support, pupils tend to judge their own attainment and progress through comparison with their classmates. To some extent sharing 'child-speak' criteria enables the emphasis to move towards achievement in relation to those criteria rather than comparison with peers. However providing children with opportunities to evaluate their own work on the basis of particular criteria and to compare their own work with that of others and with examples of quality work enables them to better understand the criteria to which they are working.

Recording and Reporting

Finally, it should be added that the recording and reporting of children's achievements should be based on the same principles as those for the processes of assessment. Thus recording and reporting should:

- consider all aspects of learning and individual development, not simply those which are testable. This includes knowledge, skills and understandings, but also areas such as attitudes and beliefs, communicative and collaborative skills, social skills, learning processes and thinking;

- consider learners differential attainment in different contexts, and should show attainment within a complex picture of progressive development rather than as a simple snapshot;

- be based on as wide a variety of approaches as possible, but should bear in mind the limitations of each approach. As often as possible these should involve learners as reflective participants in the process;

- be a participative process, respectful of a learning partnership between pupils, parents and teachers, and focus on the development of reflective dialogues.

So, as an example in relation to the last bullet point, in a pupil–parent–teacher conference the child might set the agenda and chair the meeting, beginning by offering their own reflections on key areas of their learning – based on portfolio evidence – and then asking for parent and teacher comments and reflections before negotiating new learning targets or goals.

Thinking Assessment

In this chapter we have considered the key role that assessment has in promoting children's use of their thinking skills in the classroom. As Walter Doyle said in 1983, children exchange 'performance for grades',[2] meaning that they try to do what they think the teacher wants them to do, and what the teacher assesses is a key indicator of this. Thus, and this cannot be overstated, if we want to promote thoughtful approaches then we must assess thoughtful approaches, and we must do it in a thoughtful way.

Key Points

1. Assessment is a reflective log of events and our response to them, a record of our changing selves.

2. For assessment to enable us to shape rounded and thoughtful individuals whose learning reaches out from the classroom to engage with the world:
   (a) teachers should assess what they value, and not simply concentrate on what is easiest to assess, including attitudes, beliefs, understandings and skills;
   (b) teachers should assess the same knowledge in a variety of contexts, both schooling and other, and over a period of time, recognizing that context and time are issues;
   (c) teachers should ensure that they use a variety of observational, oral, discursive and written approaches, including testing, to make both formative and summative assessments of learning;
   (d) children, parents and teachers should consider all these assessment approaches and issues when making overall judgements.

3. For assessment to encourage thoughtful approaches and deep engagement we must:
   (a) consider the process of learning and not just the product
   (b) engage in approaches which encourage children to explain and try to understand their reasoning
   (c) discuss problems so that children reveal their ways of thinking.

4. For assessment to promote a love of learning for its own sake, and encourage learners to enter their learning with an intention to understand, and for assessment to be part of that learning process, developing metacognitive and reflective approaches:
   (a) children should be regarded as partners in the learning process and be involved in extended assessment dialogues with teachers, friends and parents;
   (b) teacher feedback should be dialogic and promote a learning partnership with the child.

5. Assessment is a powerful arena for the promotion and use of metacognitive processes. Approaches which promote metacognition include:
   (a) sharing teacher and pupil learning intentions;
   (b) discursive feedback and marking;
   (c) teacher–student conferences;
   (d) peer assessment;
   (e) student learning diaries;
   (f) student portfolios.

6. Principles for recording and reporting children's achievements should be the same as those for the processes of assessment.