

Keeping records and summarising achievement

WORKSHOP LEADER'S NOTES

Aims

The activities in this module aim to promote discussion of records of ongoing assessment and how they can be summarised to provide information for the purpose of summative assessment. The use of informal tests or tasks for this purpose is also discussed, whilst the use of formal testing is the subject of Module F.

Objectives

1. Understanding of the limitations and strengths of different ways of recording formative, ongoing assessment.
2. Awareness of different ways of summarising ongoing records to produce a summative assessment.
3. Appreciation of some advantages and disadvantages of teachers' assessment and external assessments of children's achievements.
4. Knowledge of different ways in which teachers' summative assessments can be made more reliable.

Task E1

This task facilitates discussion of records kept for the purpose of keeping track of children's progress and helping teachers in planning work to match their achievements.

Organisation: Participants in groups of about four.

Materials needed: Task E1, Resources 5 and 11.

Time: Allow at least 45 minutes for the task and 30 minutes for plenary feedback.

Instructions: Tell the participants what they have to do:

- Look at the four kinds of record and answer the three questions in sub-task (i). Draw up a list of advantages and disadvantages in relation to a), b) and c) for each one.
- Groups can decide whether they complete the sub-task for each method for all the purposes or look at each one in relation to each purpose.
- Remember to give some time to questions (ii), (iii), (iv) and (v).

Task E1

Look at the methods of recording of Teachers 1, 2, 3, and 4, in Resource 11.

Working in groups of four:–

- (i) Three of the main purposes of record keeping are:
- keeping track of the achievements of the children
 - helping the teacher's planning to match the children's achievements.
 - keeping track of the activities completed by the children.

Consider the advantages and disadvantages of the methods used by Teachers 1, 2, 3, and 4 for each of these purposes.

- (ii) What advantages and disadvantages are there of involving children in keeping records? What part could the children have in keeping these records?
- (iii) How might these records be modified to make recording practicable with very large classes?
- (iv) Would these kinds of records be useful for other subjects in the primary school? What would be the advantages and disadvantages of incorporating science with other subjects in a single record?
- (v) What other forms of record are used by members of the group? What are their advantages and disadvantages for purposes in a), b) and c)?

Plenary feedback

Ask one group to report on sub-task (i). Collect any disagreements or additions from other groups (not repetition of same points).

Ask a different group to comment on sub-task (ii), following this with contributions from other groups in the same way.

Repeat with a different group for sub-tasks (iii) and (iv).

For sub-task (v), ask for methods which differ substantially from those already discussed and encourage the users to be self-critical.

Points to emphasise

If not raised within the discussion, the leader should make sure that the following matters are discussed and these points raised or emphasised:

- The difference between recording the activities that children have carried out and the learning that they have achieved through it. Children can readily take part in keeping a record of the activities they have completed; participation in the assessment of achievement is important but is separate from teachers' records (see Module B).
- Keeping records is not the same as assessing. Assessing, which is making judgements about learners' progress and development, can take place without a written record. Records help us to reflect and make better judgements.
- It is important that the record provides the same kind of information about all the children, otherwise the information may relate to different aspects of learning for different children. (Teacher 2 does not do this, whilst Teachers 1 and 3 keep records of the same things for all).
- To help in the planning of future work the record should indicate what the children can and cannot yet do. (Teacher 1's records do not do this and Teacher 2's indicate only some aspects.)
- Records are time-consuming and should provide only the amount of detail that is needed. (Teacher 4 has retained all the detail and still has to analyse what the work means for what children can and cannot yet do. A portfolio doesn't provide 'at a glance' information).
- Records should be kept under control. If certain information is never used, it may as well not have been recorded. (Teacher 3 has reduced the burden by recording after a coherent group of activities rather than after every activity.)

- These points apply particularly with very large classes. Rather than not make any records, because the task is too great, the record could be streamlined by, for instance, only recording certain, carefully selected activities, but doing this for all the children.
- There is no perfect record. As can be seen from this discussion, each has its drawbacks; personal preference and style should also be considered.

Task E2

This moves the discussion onto using the information in the ongoing records for the purpose of reporting and recording what children have achieved at a certain time (summative assessment).

Organisation: Participants in groups of about four.

Materials needed: Task E2, Resources 5 and 11.

Time: Allow at least 20 minutes for the task and 25 minutes for plenary feedback.

Instructions: Tell the participants to:

- Look again at the four kinds of record in Resource 11.
- Consider the three questions in (i) in relation to each of the four records. (The matrix is just a reminder to do this systematically – it is unlikely that the full answers can be entered into it.)
- Make some practical suggestions for adapting records to be practicable with very large classes.

Check that the meaning of 'reliable' is understood. Take the opportunity to rehearse the difference between reliability and validity (see background information for Module A – or glossary).

Task E2

Consider again the records in Resource 11 but this time to decide how the information for each child could be summarised to provide an assessment of achievement at the end of term or of the school year. This is the summative assessment that would be the basis of an end-of-year report to parents and would be passed to the child's next teacher.

- (i) For each of the records answer these questions:
- a) How might the teacher go about producing a summative assessment from the ongoing record?
 - b) What form could the summative assessment take?
 - c) How reliable do you think the assessment would be?

	How to produce the summative assessment	Form of the summative assessment	How reliable?
Teacher 1			
Teacher 2			
Teacher 3			
Teacher 4			

- (ii) Consider how the process of producing end of term/year reports could be streamlined to help teachers of very large classes.

Plenary feedback

Ask for the responses to a) for all the four records, followed by responses to b) for all four and on to c) for all four. This helps to focus on the process of summarising and avoids the danger of repeating points already made about each record. As before, take one group's responses, in turn; ask for comments and additions rather than full reports from others.

Points to emphasise

- The purpose of summative assessment is to show what each child has achieved by the end of the year, not an average performance across the year. Find out whether there is agreement on this point among the participants.
- The marks out of ten on the tests present a problem in relation to the intention of providing information about what children can do. It isn't possible to know what they mean in terms of achievement. Some might suggest using the general trend in the marks, to indicate 'excellent', 'good', or 'poor' performance but this is of little help if we don't know 'good at what'? Inevitably this means that Teacher 1's records are not very helpful. Significantly, they are the most common form of record kept.
- A useful form of summative record is a short profile of the areas of understanding, skills and attitudes. Some of these can be grouped together for this purpose, so that the information is not more detailed than can be grasped or used.
- It follows from what has been said earlier that the most useful assessment is criterion-referenced. For summative assessment it is important for the same criteria to be used in the same way for all the children since the results may be used to compare one child with another in order to select or group them.
- The official curriculum in some countries provides criteria in the form of performance indicators or targets arranged in levels of development. These provide convenient ways of recording children's progress, as long as those receiving the records know what the levels mean.
- In using criteria (or performance indicators) for summative assessment it is necessary to get away from an activity-by-activity assessment and to take a 'holistic' view all the information. This results in the 'best fit' to the criteria overall (see background information). Portfolios can be assessed holistically in this way as well as the information described in terms of developmental criteria.
- To serve its purposes summative assessment has to have a high reliability; in this context it means that the same judgement would be made whoever makes it. It is not always easy to apply criteria reliably (particularly when first starting) but teachers' meetings can be organised to compare judgements, identify areas of difference and bring the judgements of different teachers into line with each other.

Task E3

So far we have considered using only teachers' records of ongoing assessment. There are disadvantages of this which have probably been revealed in the discussion. This task provides an opportunity to consider alternatives. These have their advantages and disadvantages too.

Organisation: Participants in pairs, moving after 15 minutes to groups of four.

Materials needed: Task E3.

Time: Allow at least 25 minutes for the task (15 in pairs and 10 in fours) and 30 minutes for plenary feedback.

Instructions: Read the information about Teachers 5 and 6. Emphasise that when meeting in groups of four they should concentrate on the differences in their views.

Task E3

The Head Teachers of the schools where Teachers 5, 6 and 7 teach were not confident that a fair summative assessment could be derived from the records of ongoing assessment. They therefore obtained a collection of test items and practical tasks which could be used at the end of each year to provide the summative assessment. The test items and tasks had been tried out and analysed so that they could be labelled according to the skills and understanding of ideas they assessed.

In the school of Teacher 5, selections of the items and tasks were put together to make tests suitable for each age level. The tests were rather similar to the children's normal work and so there was no feeling of being tested. The children took the tests at the end of the year, the teachers marked them, using the mark schemes provided and the total score for each child obtained in this way formed the summative assessment.

In the school of Teacher 6, the Head Teacher told the teachers to use their judgement and their ongoing records to decide whether certain criteria had been met. They were then to select appropriate tasks and test items and use these as part of the children's activities, to check their own judgements. Where there was disagreement, teachers looked again at the evidence from both sources and refined their view of how to judge certain kinds of achievement.

In the school of Teacher 7, there was a combination of externally produced tests, marked by the teacher, and assessments based on the teacher's ongoing records. The tests were given 30% of the marks and the teacher's assessment 70% per cent.

In pairs:

- a) List the strengths and weaknesses of the approaches used in the schools of Teachers 5, 6 and 7.
- b) Identify the conditions in which you would use each of these approaches. Give your reasons.

Join with another pair and identify any points of disagreement. Be prepared to report these.

Plenary discussion

This activity is likely to pin-point differences in view of the relative confidence that participants have (or believe others to have) in teachers' assessments, on the one hand, and externally produced assessment tasks, on the other.

Begin by collecting areas of disagreement in relation to a). Ask each group for one point only until all the points have been raised. List them on a board or flip chart. Repeat for b).

Points to emphasise

- Teachers' records and judgements can potentially cover a wider range of achievement than a test. In this sense they are more valid than a test in reflecting the full learning that is aimed for.
- However the realisation of this breadth depends on the opportunities provided in the classroom and on the teacher's skill in assessment. If either or both of these are weak then there are advantages in giving a test so that children can show what they can do.
- Unless teachers have an opportunity to develop their skills in making summary judgements and to bring their judgements into line with those of others then their judgements may well be less reliable than we would wish. Therefore some means of checking their judgements will increase the confidence in the results of both the teachers and those who use the information (parents, head teachers, etc).

- Using externally devised tests to check teachers' judgements, as in Teacher 6's school, or to combine with them, as in Teacher 7's school, is a means of maintaining breadth and reliability. Moreover the feedback that the teacher receives in this process is a form of staff development.

Background information

Purposes of records

Records relating to individual children can serve three different purposes:

- to keep track of activities and experience
- to assist ongoing assessment by keeping track of children's achievements
- to provide summary information about what children have achieved at the end of certain periods of time.

It is worth emphasising that records of activities and records of achievement are not the same and have different purposes. Records of activities show what each child has experienced; records of achievement show what they achieved at that time, possibly as a result of the activities.

Records of activities

The purpose of a record of activities is to enable the teacher to ensure that all children, at various times, have the learning opportunities planned, in so far as this is possible, and to record gaps in children's experience where this has not been possible. A list of activities is created and the record would be completed by ticking those undertaken by each child; not an arduous matter and one in which the children can help. In many cases groups of children will have undertaken the same activities but keeping individual records means that absences and changes of group composition are taken into account. Certain activities will probably be regarded as equivalent to each other, whilst in other cases it may be that the context is so different that repetition is desirable. Taking these things into account, the teacher will use the record to keep an eye on the gaps in the activities of individual children and act on this, either in planning the next term's work or having one or two sessions in which children are directed to activities which they have missed.

Ongoing records of achievement

These are the most detailed of the records which have to be kept and it is inevitable that a fairly lengthy recording sheet will have to be used for each pupil. A compromise has to be struck, however, between a scheme which is so burdensome that it will not be maintained and too detailed to be easily used, and one which consists of ticks or other marks whose meaning is rather vague. In deciding which kind of record is most useful it should be noted that:

- The over-riding purpose is to help the teacher remember where each child has reached in development so that suitable activities and encouragement can be given.
- These records are for the teacher's own use and so the level of detail can be adjusted to suit the individual's ways of working.
- They will be summarised for other purposes, for school records passed from class to class and for reporting to parents.

Teachers vary as to how much information they can carry in their head and how much they like to write down. *However it is important to keep some record of the achievement of all the children and to do this in a way that the same kinds of information are recorded for each child.* The act of completing the records ensures that the teacher becomes aware of what (s)he knows or does not know about each child. It is very easy, especially in a large class, for the teacher to know a great deal about the noisy and disruptive children, those who claim attention for one reason or another, but much less about those who are quiet and do not stick out as high or low achievers.

Records can be less cumbersome when they refer to some document where the detail is spelled out. For example, in Resource 12, Teacher 3 referred to the lists of progressive development of skills and attitudes.

Using ongoing records for summative assessment

Much of the information gathered for formative purposes and recorded in teachers' ongoing records can be used for summative purposes, that is, for judging what children have achieved at a certain point, usually the end of the school year. Indeed the formative information should not be ignored, since it is the richest source of information about the children's achievement. But for reliable assessment, as required for summative purposes, there must be certain conditions as to the use of this information, specifically that:

- it is reviewed strictly against the criteria
- the criteria are applied in a 'best fit' approach
- there is some way of ensuring that the judgements of one teacher are comparable with those of other teachers.

The features of formative and summative assessment

In addition to their different purposes, formative and summative assessment differ in other features which are summarised in the following table.

Feature	Formative/ongoing	Summative
Purpose	Helping teaching; promoting learning; positive in intent	Reporting achievement at certain points in time, usually at 'natural breaks'
Timing	Takes place as an ongoing part of teaching	Takes place at specified times
Use	As basis for 'next steps' in learning	Report to parents, other teachers and pupil on point reached in learning
Type of information	About ideas ('small' ideas) and skills used in particular activities and how these were arrived at	About the grasp of 'bigger' ideas which are achieved as a result of several activities and which relate to the requirements of the curriculum
Basis of judgements	Takes account of effort as well as quality of work	Takes account of the quality of the work only
Comparability of judgements	Judgement depends on the child as well as the criteria; so not comparable for different children	Products of assessment (grades, levels, marks, etc.) mean the same for all children
Role of children	Children have a central part in the assessment of their own work	Children have a part but there must be overall confidence that criteria are applied in the same way for all children

Type of information

Because formative assessment is carried out so that it can be used in helping teaching and learning, the type of information it requires is concerned with the learning in the activities as they take place. It will therefore concern the ideas and skills that can be developed in

particular activities. We can call these 'small' ideas because they are likely to be specific to the activity. Of course the teacher will have in mind 'bigger' ideas, of wider application, towards which (s)he intends the children to make progress. Several 'small' ideas will have to be linked together to form gradually bigger and bigger ideas.

For example, if children collect 'minibeasts' and attempt to keep them in their classroom, they are learning about the conditions needed for survival by the particular animals that they find. Their teacher would want them to link their ideas about these particular creatures to their experiences with other living things – keeping pets, learning about animals in the wild, etc – to form general ideas about the needs of living things and eventually to link the characteristics of animals to the features of the habitats in which they live. The characteristics of living things and adaptation to habitat are 'big' ideas (big because they relate to more than the particular animals studied) that will become bigger still as children's experience extends and supports a deeper understanding of these concepts.

Summative assessment is concerned with progress towards the big ideas rather than the learning in specific activities. For this the teacher will wish to judge the extent to which the children can apply ideas in contexts different from those in which they were learned.

Basis of judgments and comparability of outcomes

Formative and summative assessment also differ in the way information about aspects of children's behaviour is judged. As we noted in the background information for Module A, assessment always involves a judgement and the outcome is the product of the judgement. Three kinds of standard (criteria, norms and the child's previous performance) are in common use in assessment giving rise to criterion-referenced assessment, norm-referenced assessment and child-referenced (or ipsative) assessment.

In formative assessment teachers are interested in the progress made by individuals and how to help further achievement, which means that in deciding whether the smile or the frown is the appropriate response, the teacher will take into account the child's previous achievement, the effort put in and any particular difficulties the child is experiencing, as well as the quality of the work. This means that it is possible that a piece of work which might result in praise for one child would, if produced by another, be regarded as less than satisfactory for that other child. There is no harm in this *as long as comparisons between children are not made on the basis of these assessments*. What the teacher is doing is using a mixture of child-referenced and criterion-referenced assessment. This is good practice, since, if the teacher were to use strictly criterion-referenced assessment, the same for all the children, then for some this would mean constant discouragement.

For summative assessment, however, it is important *that comparable outcomes of assessment imply comparable quality of work*. So the grades, levels, marks, and so on that are assigned to children's work must mean the same thing for different children. Their meaning comes from the criteria being applied. For this purpose, then, no aspects should be considered other than what the work means in terms of ideas and skills achieved.

The role of the children

Encouraging children to take part in the assessment of their own work is a way in which teachers can communicate to children the objectives of their learning. (See Module B). The children's role in assessment is most readily encouraged in the context of assessing specific pieces of work. Creating portfolios, or collections of work in folders or boxes, is a popular and effective way of doing this. However, the extent to which primary children can genuinely take part in summative assessment is limited. It requires understanding of rather longer-term aims and the broader picture of the progression in learning, as well as the ability to stand aside from their work, that will develop at a later stage.

Using criteria

It is clear in the arguments about assessment, whether for formative or summative purposes, that it should be criterion-referenced, since only this form gives information about what children can and cannot do. But where do teachers find the criteria to use? Some developmental criteria are given in Resource 5, but this is only an example. They are unlikely to be used by all teachers, and so lack the necessary status for widespread use. Teachers have to use the same criteria as each other, reflecting the aims of the science curriculum applying in their district, region or country.

It is becoming more common for curriculum statements to be in the form of expected achievements or outcomes at different levels. These may be stated year by year, or in terms of developmental levels, for example:

Progressive stage	Criteria
PS1	Statements of what a child may be expected to have achieved at the end of stage PS1
PS2	Statements of what a child may be expected to have achieved at the end of stage PS2
PS3	Statements of what a child may be expected to have achieved at the end of stage PS3
etc	etc

These statements of achievement are the criteria against which the achievement of individual children are judged. The outcome may be, for example, to indicate that a child has achieved PS2 but not yet PS3, but this is a shorthand for the statements of what the child has and has not yet achieved which are spelled out in the list.

Using criteria holistically: the 'best fit approach'

Generally it is possible to pick out separate statements of achievement in the list defining a particular level. It would be possible to look for evidence in relation to each statement in the children's work during the period being summarised. But this is often problematic as well as arduous, since children's work over a period of time will show peaks and troughs. At times they may seem to be able to do something which at other times they seem unable to do. These ups and downs are useful for formative purposes because they indicate conditions which work in favour or against certain kinds of achievement. But for summative purposes they pose a difficulty for the decision as to whether or not a child has achieved a particular level in skills or understanding.

A preferred approach to using criteria is to review the work as a whole and to decide the 'best fit' with the criteria to be applied, accepting that not every piece of work will meet the criteria and not every criterion will be met.

Professional judgement is required and this can be enhanced by teachers having an opportunity to discuss actual collections of children's work and sharing their views on how they should be assessed.

Making teachers' judgements more reliable

One way of ensuring that judgements made by different teachers for summative purposes are comparable is to provide opportunities of the kind just described, where teachers meet to compare their judgements. Another way is to build up a bank of examples that can be used as reference points in making judgement. A third way is to provide a means for teachers to check their own assessments by using an externally devised task or test that has been validated for the purpose of indicating certain levels of achievement. This brings us to the third matter discussed in this module, the use of special tasks to supplement other information for the purposes of summative assessment.

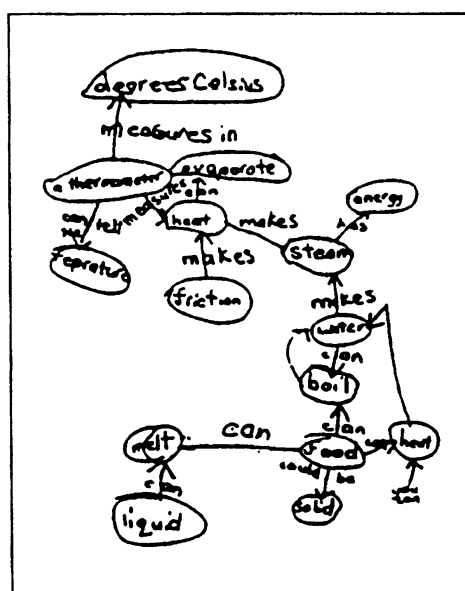
The role of special tasks in summarising progress

As noted earlier, part of the information needed for summative assessment concerns the development of 'bigger' ideas and the ability to apply ideas in contexts other than those in which they were learned. This means that summarising evidence from learning activities carried out may not provide all the information that is needed to report on progress. True, some information about ability to apply will be gained as an ongoing part of teaching and this will contribute to summative assessment. However, in addition to using information from regular learning activities, there may be the need to introduce tasks designed to assess understanding through the application of ideas, and the ability to use skills in a range of contexts.

These tasks need not be externally produced and indeed the main value of ones that are available from publications is to give ideas to teachers so that they can develop their own. Examples of useful approaches are:

- A set of questions written round one theme. Children can be asked to write their ideas for planning investigations, how to interpret given data, how to explain some findings that are described, etc all in relation to the same theme.
- Using concept maps to explore children's understanding of links between things.

Concept maps are diagrammatic ways of representing relationships between words. For example the map in the figure (from Harlen, 1996) was drawn by 6-year-old Lennie, using words relating to his ideas about heat and its effects on various things. The words were supplied by the teacher and were ones that she knew that Lennie had encountered. Some teachers write the words on cards so that the children can move them around whilst they are thinking about how they are related to each other and then draw the arrows and the words that link them. Reading the maps produced in this way helps a teacher to know what ideas have been formed. For example, Lennie has some useful ideas about the effects of heat but has not distinguished heat from temperature.



- Developing a 'circus' of small practical tasks designed to address particular criteria. These tasks are sometimes designed so that children at various levels of development can tackle them and their level of achievement is determined from the response. Alternatively they can be more targeted so that children can answer them when they have reached a particular level.

Introduced as part of their work, children invariably enjoy the change and challenge that these activities provide. As well as providing the additional information that teachers need to report on progress, they also give a great deal of information that can be used in planning later topics and activities.