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What is Formative Assessment?

In this chapter we look at different ideas about formative assessment and consider teacher beliefs about formative assessment.

Sharing definitions

We carried out a research survey in UK primary schools in 2008 – five years after assessment for learning had been formally introduced into the national teaching and learning agenda through the Primary strategy: ‘Excellence and Enjoyment’ (DfES 2003) – to investigate how standardised the definition of formative assessment was across schools. The results were surprising, with a wide range of definitions expressed by teachers. It is essential, therefore, that formative assessment has a clear definition so that its practice can be understood and improved by teachers. The literature in the research field offers several interpretations and definitions. For example, Coffey et al. (2011) suggest that ‘formative assessment should be understood and presented as nothing other than genuine engagement with ideas, which includes being responsive to them and using them to inform next moves’ (p. 1129), while US researcher James Popham’s definition states clearly that ‘formative assessment is not a test but a process that produces not so much a score but a qualitative insight into student understanding’ (Popham 2008, p. 6). The process and outcomes of formative assessment are the focus for Bennett whose definition links the teaching, learning and assessment activity: ‘formative assessment involves a combination of task and instrument and process’ (2011, p. 7)

According to socio-constructivist learning theory, individuals assimilate knowledge and concepts after restructuring and reorganising it through negotiation with their surroundings, including fellow learners

(Hager & Hodkinson 2009; Rogoff 1990). All children do not learn all that is taught and teachers cannot know what and how well concepts are understood without using some process to establish pupil understanding. Since each pupil has his/her own unique socially constructed context, ideas, concepts and meanings are not fixed nor standardised across a group or class of pupils. Therefore the individual outcomes of learning situations will be diverse. The word 'assessment' derives from the Latin word 'assidere' meaning 'to sit beside' – this can be taken to imply a close proximity or association between the assessor and the learner in the assessment process (Good 2011).

Criticism of an assessment process which had traditionally been designed to grade and certificate led to the emergence of formative assessment, a concept designed to support pupils' learning processes. 'Beginning in the 1960s researchers and authors from a range of disciplinary backgrounds weighed in against the proliferation of classification practices stemming from the American psychometric current, thus opening the way to prioritising assessments that measured students' learning' (Morrissette 2011, p. 249). These researchers included, in sociology, Becker (1963), Bourdieu and Passeron (1970), Perrenoud (1998, 2004), in anthropology, Rist (1977), in palaeontology, Gould (1981), in philosophy, Foucault (1975), and in evaluation Crooks (1988), Mehan (1971), and Popham (2008) have drawn attention to issues such as the consequences of testing practices on narrowing classroom pedagogy and culture.

For example the secondary adaptations (plagiarism, cramming) that pupils develop in a context which continually threatens their integrity and self-esteem; the cultural biases of the tests used to assess their learning; the 'instrumental illusion' that is, the ingrained belief that it is possible to exclude all the interpretive processes which are necessarily involved in these practices; and finally the power ascribed to evaluation practices that, on the one hand, contribute to a form of control and standardisation and on the other, perpetuate social disparities. (Morrissette 2011, p. 249)

From these beginnings, there has been an increasing interest in the formative principles and functions of assessment serving to support children's learning rather than to grade pupil outcomes.

Research on formative assessment practices has covered a range of disparate approaches: a focus on the choice of tasks and the context in which they are carried out (Wiggins 1998); formative assessment as a means of modelling, designing and supporting professional development (Ash & Levitt 2003; Boyle et al. 2005); assessment criteria (Torrance & Pryor 2001); the feedback provided to pupils (Hattie & Timperley 2007); and pupils' views about assessment (Cowie 2005).

Linda Allal (1988) has produced a typology of remediation post-assessment of a learning objective for a concept as follows:

- **Retroactive adjustment:** which takes place after a shorter or longer learning sequence, on the basis of micro-summative evaluation
- **Interactive adjustment:** which takes place through the learning process
- **Proactive adjustment:** which takes place when the pupil is set an activity or enters a teaching situation.

These three methods may be combined and none of them are to be associated with a stereotyped procedure. Retroactive adjustment may take the form of a criterion-referenced test followed by remediation. Retroactive adjustment may mean going over much earlier material and temporarily refraining from 'pushing' the child to learn things that may cause him/her problems. It may also entail adjusting other aspects of the teaching situation or even the child's progress through the school.

Enlarged understandings of formative assessment

How assessment links to and is an ongoing inherent aspect of teaching and learning is a perennial issue. In this debate, the definition and role of assessment are crucial. A reductionist definition of assessment with its aim defined as an increase in learner 'performance' measured as test data is too narrow a concept to guide teaching. In England, despite the desire and the recommendation of the Task Group on Assessment and Testing (DES 1988) the reduction of assessment to being viewed as synonymous with 'testing' and a one-dimensional view of 'performance' is exactly the situation that has become reality in the 25 years since TGAT reported.

The TGAT proposed that teachers should assess only that which is observable. Teaching decisions, especially the decision to move on to the next part of the curriculum, should always be based on an assessment, no matter how informal, of the learner's response to the current activity. It is that assessment of current achievement which is the basic building block of any assessment system in the context of a National Curriculum. Assessment in the context of the National Curriculum was not designed to predict how a learner will do in later life, by trying in some way to measure ability or effort. National Curriculum Assessment was intended as a means of demonstrating how children were progressing through the level structure of the entitlement curriculum. However, it has ceased to be criterion-referenced (definition) and now serves as a means of norm-referencing children and schools.

Formative assessment was legitimised and became part of the education policy makers' and teaching fraternity's lexicon through the seminal Task Group on Assessment and Testing report (DES 1988) which developed the assessment system for the National Curriculum encompassed by

the 1988 Education Reform Act (DES 1988). However, with the commencement of paper and pencil testing of the National Curriculum (the 'sats') in 1991, soon the only form of 'assessment' which mattered was summative and this was embodied in the end of key stage tests. These quickly became a 'high stakes' priority for schools who felt pressured by both Ofsted (Office for Standards in Education) and the government who used the test results as the principal (often, it appeared to teachers, the sole) measure of national standards and each school's success or failure. This was a very one-dimensional 'standards agenda' as its sole focus was on a school's test scores based on the sub-domains of English and mathematics measured against arbitrarily set national percentage targets.

Officially, summative Teacher Assessment (TA) has 'parity' (Dearing 1994) with the test outcomes – but the school performance 'league' tables use only the test data. The (non-formative) purpose of TA was designed to be the holistic award of a teacher judgement 'level' for each child at the end of the school year. This attainment judgement was based on the child's progression through an 8-level scale, the judgements to be made as a 'best fit' of the child's 'performance' against a prose paragraph describing performance at each level (Boyle 2008; Hall & Harding 2002). This task required standardisation of definitions of quality (at school, regional and national levels) for any judgements to be transferable as reliable and valid. 'Unless teachers come to this understanding and learn how to abstract the qualities that run across cases with different surface features but which are judged equivalent they can hardly be said to appreciate the concept of quality' (Sadler 1989, p. 128). This necessitated dialogue, communication and collaboration by teachers with their colleagues within and essentially across schools and as this strategy was financially unsupported by central government it was soon 'dismissed' by teachers. Their reasons included 'workload', difficulties of communication, administration and logistics of meetings to share understandings and meanings of children's work. Significantly, the 'sats' scores were conveniently received by schools before the date for national returns of TA, enabling schools to avoid disagreement between test and TA and reduce workload by returning as near a match as possible across the two scores (Reeves et al., 2001). The test and TA reported levels were in accord so there appeared to be no need to further investigate a school's performance. The TA process has become even further complicated with the introduction of Assessing Pupil Performance (APP), a government strategy which stresses the making of judgements at sub-levels (2a, 2b, 2c) and then at sub-sub-levels, e.g. high 2c, secure 2c, low 2c.

Both summative and formative approaches to assessment are important. Summative assessments are 'an efficient way to identify students' skills at key transition points such as entry into the world

of work or for further education' (OECD 2005, p. 6). Tests and examinations are the traditional ways of measuring student progress and have become integral to the accountability of schools and the education system in many countries. However, internationally assessment has become almost universally equated with high stakes scoring and testing (Hall et al. 2004; Shepard 2000, 2005; Twing et al. 2010) and teaching has consequently been reduced to servicing that metric (Guinier 2003).

Much of the common emphasis on formative assessment has been that it occurs within learning activities rather than subsequent to them. It provides information for the teacher to use to make judgements during a lesson or day-to-day in the planning of matched materials for students in lessons (Ramaprasad 1983; Shepard 2000). Formative assessments are often used synonymously with benchmark or interim assessments and in reference to student performance on test items (Bennett 2011; Popham 2006). Popham defines formative assessment as 'not a test but a process' that, as Shepard adds, can 'inform instructional decision-making' (Shepard 2000).

What is an acceptable definition of formative assessment?

We used a quotation from Perrenoud in the Introduction to this book: 'Any assessment that helps a pupil to learn and develop is formative' (1991, p. 80). However, the statement needs development. The core of formative assessment lies not in what teachers do but in what they see. The teacher has to have awareness and understanding of the pupils' understandings and progress. 'To appreciate the quality of a teacher's awareness, it is essential to consider disciplinary substance: what is happening in the class and of that what does the teacher notice and consider? (Coffey et al. 2011, p. 1128). Do the teachers neglect the disciplinary substance of student thinking? Do they presume only traditional targets of (subject) as the body of information (to be taught and then assessed), selected in advance? Do they treat assessment as strategies and techniques for teachers? It is imperative that teachers consider student thinking not only with respect to its alignment with the 'linear curriculum' but also with respect to the nature of the students' participation. Students' acceptance that 8^2 equals 64 could be seen as alignment with the taught curriculum. However, if students accept that calculation on the teacher's authority, rather than because they experience the problem, design the calculation and see the result supported by evidence and reasoning they become passive recipients of the transmission of knowledge.

'Therefore it is essential that formative assessment – and accounts of it in the literature – consider more than the “gap” between pupil thinking and the correct concepts' (Coffey et al. 2011, p. 1129).

It is attention to pupil thinking that will cause the teacher to abandon his/her original plan for a lesson. Formative assessment will create 'learning objectives' that a teacher will not have had in his/her conceptual planning at the outset – and at two levels. The first level is one of conceptualisation – how the child understands the concept – while the other objective is at the level of how the child approaches the theme/concept. The teacher should be constantly working to move students into engaging with the theme/concept as researchers and away from the 'classroom game' (Lemke 1990) of telling the teacher what they think s/he wants to hear.

In conceptualising assessment as 'learner behavioural analysis', the teacher is formatively assessing student thinking by paying close attention to the demonstrations through behaviours and outcomes of that thinking. S/he wants to understand what the students are thinking and why – as surely would any participant in any meaningful discussion. Formative assessment should be understood and presented as nothing other than genuine engagement with ideas, which includes being responsive to them and using them to inform next moves (Coffey et al. 2011, p. 1129). For example, the teacher is exploring ideas about rainfall with a group of primary children. She originally had set up the dialogue linked to weather in a discussion of words and phrases such as 'wet', 'cloudy' and 'splashing in the puddles'. One child extended the discussion into the related area of her own bath time and used vocabulary related to that experience such as 'the water washes over me'. In this context the formative teacher re-shaped her original idea and teaching concept to the perspective and location of the learners, i.e. the child whose thinking had moved on to 'water' produced a 'water' poem.

A teacher's model of formative assessment in practice should be in close proximity physically and temporally with what the teacher planned that children would learn: the practice of assessing the quality of their own ideas for their fit with their learning objectives. Effective assessment is part of the learning process for children. It is important that they understand, for example, in studying 'forces', what the specific kinds of forces are, but through their own experimentation, for example using concept cartoons such as 'Bottle on the shelf' which open dialogue about the kinds of forces and their actions to move a bottle placed on a shelf (see Figure 1.1). In that case, children are learning to assess ideas as 'nascent scientists' rather than as compliant students. Understanding these discipline-based assessment criteria is part of what educators should help children learn. As children begin to engage in disciplinary assessment, they are learning a fundamental aspect (of their subject) (Coffey et al. 2011, p.1129).

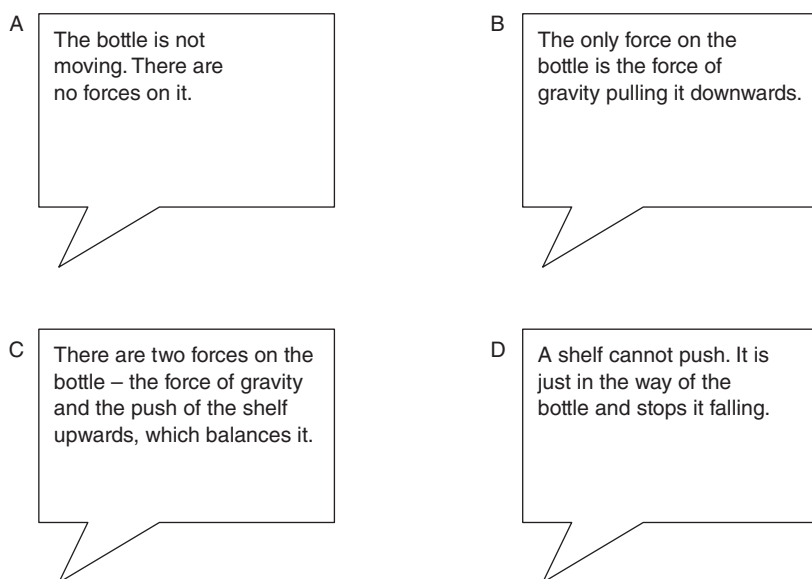


Figure 1.1 Bottle on the shelf evidencing the force of gravity

Teachers do not need strategies (traffic lights, two stars and a wish) to become aware of and more responsive to children's thinking. This begins with a shift of attention, with a shift of how the teacher frames, and how s/he asks the pupil to frame, what is taking place in the classroom. This orientation towards responsiveness to pupils' ideas and practices resonates with work in teacher education (particularly in mathematics, see Ball et al. 2008; Kazemi et al. 2009) that has pushed for more practice-based accounts of effective preparation. This resonates with learning to teach 'in response to what students do' (Kazemi et al. 2009) and more attention to 'demands of opening up to learners' ideas and practices connected to specific subject matter' (Ball & Forzani 2011, p. 46). By this reasoning, much depends on how teachers frame (plan) what they are doing – and the primary emphasis on strategies (gimmicks) in teacher training may be a part of the problem. Assignments that direct teachers and teachers in training to what they are doing may inhibit their focus on what pupils are thinking. With Coffey et al., we suggest the need for a shift away from the strategies that teachers use as the sole focus of their attention in class, and from that shift a re-framing of what assessment activities entail. We propose that it is essential for teachers to frame what is taking place in class as centred on pupils' ideas and reasoning, nascent in the subject area or domain. Formative assessment then becomes about engaging with and responding to the substance of those ideas and reasoning, assessing with discipline-relevant criteria, and, from ideas, recognising possibilities

along the disciplinary horizon. Formative assessment moves out of strategies and into classroom interaction with roots in disciplinary activities and goals (Coffey et al. 2011, p. 1131).

'Formative assessment takes place day by day and allows the teacher and the student to adapt their respective actions to the teaching/learning situation in question. It is thus, for them, a privileged occasion for conscious reflection on their experience' (Audibert 1980, p. 62). As Audibert says, formative assessment is constant analysis of a connected moving picture: if the action taken on the basis of the assessment is effective ('effective' being defined within the iterative nature of learning in which pupils will re-visit concepts several times on their learning journey), the learner has progressed and his/her misconceptions are being supported. Formative assessment is a rich source of information about the pupil. The pupil's knowledge, understanding and skills will have been looked at on many occasions and in many contexts. Assessment cannot be used formatively if it is only intermittent. Learners develop all the time, not just at the end of a term, year or key stage. Just as assessment is a continuous iterative process, so also must the recording of progress be a continuum, an ongoing activity. The formative assessment activity must arise from current classroom practice (*not* externally produced tests, quizzes, work sheets for mass consumption and completion). An assessment task should build on a learner's current experience. The task needs to be clearly, carefully and precisely constructed to enable the learner to demonstrate what he or she knows. Assessment needs to be understood as tightly integrated within teaching and learning. Therefore 'the more the evaluation (assessment) is integrated into situations, it becomes interactive and lasts, the further it distances itself from normative or summative evaluation, the province of tests and exams and their consequences' (Perrenoud 1998, p. 100). For example, if a teacher during a teaching session is assessing a learner's understanding of alphabetic principles (phonemes), we would not expect that teacher to present a worksheet focused on the 26 letters of the alphabet. Rather there would be multiple assessment routes for that concept, for example how the child reads, how the child writes, what form of code the child uses to write. These are all normal teaching activities with which the learner is comfortable (affective and conative domains), however they are also assessments.

The research evidence

First we designed a questionnaire for a representative (based on a random 25% of the total of primary schools) national sample of 4,000 primary schools to collect evidence on each school's prioritisation of

formative assessment as a philosophy for teaching and learning; and whether that reported level of prioritisation of formative assessment extended into classroom practice. We visited 43 of the schools to observe formative teaching, learning and assessment. We selected those visits from the responses which, after content analysis, matched most nearly our own construct for formative teaching (based on Allal & Lopez 2005; Perrenoud 1991, 1998; Sadler 1989). Analysis of the observations and transcripts (systematic observation schedule based on Galton et al., (1980) used by Alexander in his 1997 survey of 60 schools) indicated that the observations evidenced a profile of rigid, non-formative teaching, 'the formalism of highly structured lessons, whole class plenaries' (Alexander 2008b, p. 107).

On our visits to schools we asked teachers how they defined their teaching, how they conceptualised their role, what their philosophy of teaching was. 'In terms of her philosophy for teaching and learning – this was something teacher A had not given any thought to. Much of her practice she claimed was based on the modelling of others she felt were worth copying.' We asked teachers if they thought they were 'formative' teachers. To which they replied in the majority, 'what does that mean, I have never heard of that before?' We are wondering if teachers in 2013 need a philosophy. From 207 responses to a survey question 'What is your teaching philosophy based on?', and from 13 case study visits, the typical response was 'That's a really hard one – I've never been asked that before', they certainly don't think they do. They are 'reliant on prescriptive centrally disseminated materials' from which 'politicians and bureaucrats are demanding greater conformity of education offerings which are transparent and superficially testable' (Patrick et al. 2003, p. 239). They have 'strategies' for most of the important things, i.e. numeracy, literacy, Assessment for Learning (AfL), and they have 'frameworks' to plan to and from, and they have centrally supplied schemes of work to save them from having to match teaching materials to developmental or interest levels; in short they have been reduced to technicians. If they follow these formulae they are 'safe' and 'secure' in the accountability and auditing processes conducted internally (by their own Senior Leadership Team) and externally (by Ofsted and the Local Authority). So, in summary, the central purpose for becoming a teacher has been lost. Our belief is that teachers need to understand and to embrace what formative teaching is. It is not disguised within a programme or strategy to improve 'level scores' (although formative teaching and learning does markedly improve the child as a learner) and it should not respond to the summative agenda, but instead to the learning needs of the child, involving the child centrally in the origination and the development of his/her learning. One example from our observations centres on an experienced teacher who expounded widely on her formative practice and then spent the 40 minutes teaching time dictating and controlling

language, content, interactions and materials in a closed format which did not enable the children to connect to or be involved in their own learning (Boyle & Charles 2012). In short, the children did not see any relevance to themselves in the theme and content of the lesson (Vygotsky, 1986).

In nearly every case we were handed a formalised lesson plan which was rigidly structured from introduction to plenary and from which the teacher did not deviate to accommodate emerging learning needs. The focus was on the production of summative outcomes for measurement purposes 'just one kind of teaching, traditional direct instruction' (Alexander 2004, p 10). The majority of the teaching time was focused on English and mathematics (Boyle & Bragg 2006), specifically on the types of questions and product which were required for national test success. This raises the question of why teachers are operating from a measurement rather than a developmental pedagogy. Part of the answer is the accountability culture that has prevailed since the introduction of National Curriculum assessment (1989) and has been strengthened by the National Strategies, Ofsted inspections and the setting of national percentage success targets (DfE 2011). 'The Primary Strategy is found to be ambiguous and possibly dishonest, stylistically demeaning, conceptually weak, evidentially inadequate and culpably ignorant of recent education history' (Alexander 2004, p. 7). However, whatever the academic constituency thought and wrote, in classroom terms teachers felt that the route of 'formalism of highly structured lessons [and] whole class plenaries' (Alexander 2004, p. 7) was the pedagogical model which they were being encouraged to follow 'knowing as they do how much hangs on the next round of literacy and numeracy targets' (2004, p. 15). Therefore, 'the imperatives of developmental facilitation and readiness were frustrated by the syllabus and the clock' (Alexander 2005, p. 7). The government has, consciously or unconsciously, engineered a situation in which, by forcing teachers along the route of processing outcomes for accountability purposes, teachers have been left without theoretical underpinning; 'theory matters because without it education is just hit and miss ... we risk misunderstanding not only the nature of our pedagogy but the epistemic foundations of our discipline' (Carlile & Jordan 2005, p. 11). In this climate of accountability it is difficult to agree with Brown's statement that 'teachers' pedagogy is influenced by their beliefs about teaching, learning and assessment' (Brown, 2004 in Winterbottom et al. 2008, p. 15).

Analysis of questionnaire data

On being asked what importance they gave to formative assessment in their planning, over two-thirds of respondents said that they gave it a

very high priority (90% responded that they gave it a 'high' or 'very high' priority). However, on being asked to elaborate on 'why' they had assigned such a high level of priority, the schools supplied a range of responses. Some of these did not show a strong relationship between assigning a priority and the supplementary question 'why' (see Figure 1.2).

The main classifications of response on this question emerged as follows: approximately 40% of the sample reported that they had given a very high importance to formative assessment because it 'informs next steps' or 'it informs the next teaching plan', both of these responses were considered and counted in the same category. The next most reported categories were: 12% of schools reported that formative assessment 'informs all our planning', 8% stated that they gave a very high priority to formative assessment because it 'helped them assess where children are'. We felt this was vague, but in the context of an open-ended questionnaire without telephone interview follow-up, it was as good a category description as possible for this aspect of formative assessment. Eleven per cent of the sample reported that formative assessment enabled 'personalised learning' and this justified the high priority they gave to formative assessment.

Six per cent of respondents stated that formative assessment supplied 'an accurate way to set targets'. The only other significantly reported reason for the high priority given to formative assessment in planning was that 'it supports the identification of pupil needs, enabling the setting of differentiated targets for lessons', this from 6% of the sample – a clear indicator that the notion of differentiated planning for teaching is not seen as a pre-requisite for formative assessment by the majority of teachers.

There was then a wide range of low frequency responses across the schools, which we have tabulated in Figure 1.3 as 'other'. In summary these included: 'child's personal next steps'; 'informs pace and value added'; 'targeted activities'; 'effective comments for the child'; 'generates flexible teaching groups'; 'change planning to cater for pupils' needs'; 'match work to pupils' needs'; 'enjoyment'; 'accurate picture of what children are learning'; 'recommended by Ofsted'; and 'a requirement says the SIP'. Equally low frequency but possibly more valid representations of what formative assessment means for the respondents were seen in, 'teachers to be highly responsive to child's needs/adapt and adjust daily'; 'update plans on a daily basis for each child'; 'instant feedback to children', and more of the same.

As can be seen from the above, despite the very high percentage reporting prioritisation of formative assessment, schools clearly have very different definitions of what it is and what its purpose is. The correlations between Q1a: 'What importance do you give to formative

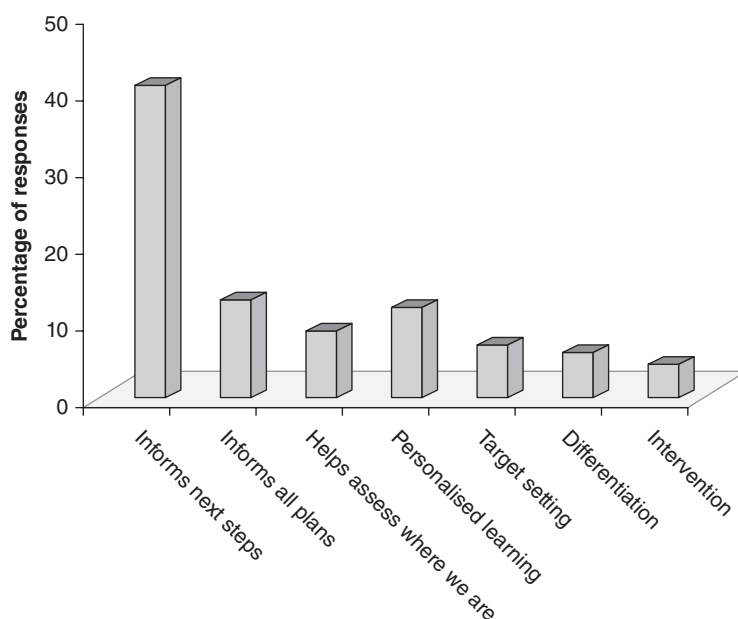


Figure 1.2 Why do you rate formative assessment so highly?

assessment' and Q1b: 'What is the reason for that prioritisation', showed no significant relationship.

In Question 2, schools were asked which key aspects of formative assessment they used. As there was no 'supplied' list this gave an opportunity to note and analyse what schools would determine as key aspects of formative assessment (see Figure 1.3). The most highly reported aspect, by almost one in four schools (24%), was 'pupil self-evaluation/self-assessment'. The definitions of this category varied, for example 'self assessment – checking off against given success criteria'; 'self-evaluation (traffic light system)'; 'self-assessment against targets'; 'self- and peer-assessment is used to assess understanding' and 'identify individual pupil targets which are used by the pupils to assess their own performance'. The second highest reported key aspect of formative assessment was 'providing feedback to the learner' (20%) with the definitions of that feedback including 'regular marking and feedback'; 'feedback on completed work'; 'feedback during lessons'; 'formative feedback when marking books' and 'feedback on targets set'. Sixteen per cent of the responses reported 'gimmicks' related to their key practice of formative assessment, for example 'two stars and a wish'; 'WALT, WILF and TIB' and 'traffic lights/thumbs up'. Twelve per cent of schools reported 'targeted questioning', 12% 'sharing success criteria' and one in 9 schools (11%) reported 'analysis of product' as key aspects of formative assessment which they used.

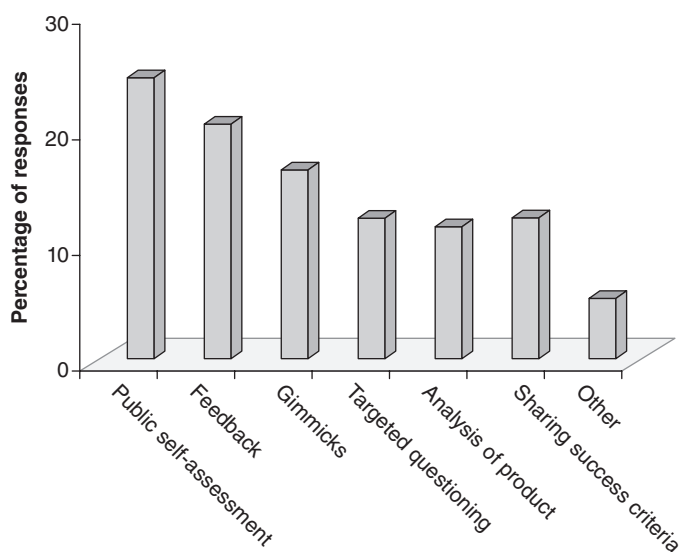


Figure 1.3 Which key aspects of formative assessment do you use?

One in 20 schools reported their key approach as ‘sharing learning objectives/success criteria with children’. In terms of numbers, these were the most significant responses in identifying key aspects of formative assessment; there was also a scattering of individual reports demonstrating the breadth of interpretation, for example ‘working alongside children’, ‘levelling/moderation of work’, ‘teacher and pupil setting targets together’, ‘checking children against targets’, ‘promoting children’s learning’, ‘key questions: what do we know? what do we want to find out?’ and ‘APP/single level tests’. These responses led the authors to believe that formative assessment has no common understanding across teachers, in definition, components or aspects of practice.

Question 3 asked teachers to report how formative assessment supported learning outcomes in their schools. The responses (as with Questions 1 and 2) indicated a range of understandings, not only of what formative assessment is but of what learning outcomes are now classified as (‘achieving targets’) and the link between assessment and learning (‘enables additional support when not achieving targets’). The most popular response to the question,⁶ ‘How does formative assessment support learning in your school?’ was ‘next steps identified by both teacher and pupils’ (21%) and that was regarded as both positive (teacher and pupil described as working together to identify next steps in learning) and formative (see Figure 1.4). The other significantly (in numeric terms) reported responses were ‘informs next day’s planning’

(18%), which was at least formative, 'planned to match differentiated objectives and targets', which hinted that it might or might not be formative and then 'identifies targets and ability groups' (18%), 'standards raising/achieving targets' (9%) and 'enables additional support/not achieving targets' (8%), all of which were not, in the authors' view, either formative or supporting learning. There was a range of low frequency responses covering the possibly formative, for example 'individualise assessment for each pupil' and 'small steps which are reviewed and adjusted' to the unspecific, for example 'central to learning process', 'pupils empowered', 'helps pace of lessons' and the summative, for example 'enables teachers to make predictions', 'children's individual half term targets', 'grouping of children relative to academic progress' and 'analysis of data allows appropriate targets to be set'.

Survey Question 4 probed the schools' views of the links between formative assessment and learning. The responses ranged in specificity from the generalisation of 'they are inextricably linked' to 'children need to know how to continue to improve' (16%). The most reported response was 'involves children in measuring their own learning/increases confidence' (26%) which the authors felt summed up two positive aspects of

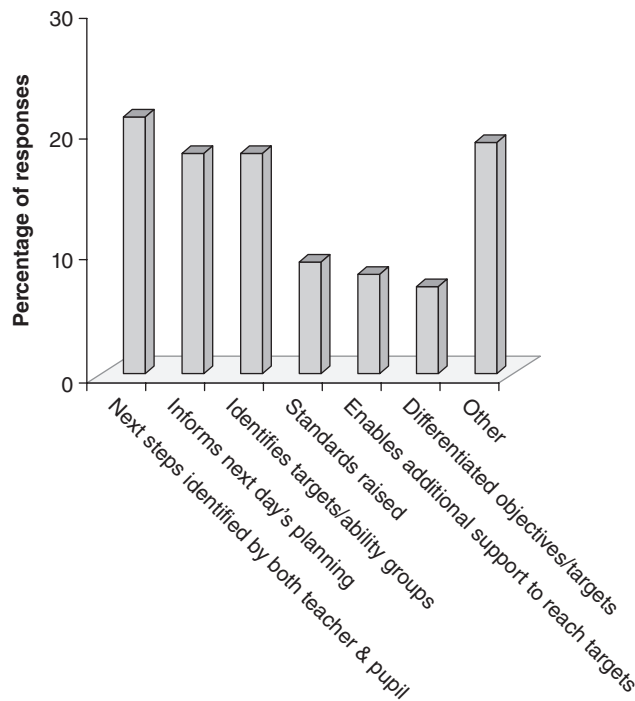


Figure 1.4 How does formative assessment support learning outcomes in your school?

formative assessment and supplied a link between the assessment and learning. Other responses which had some numerical support were ‘children cannot move in learning unless AfL is in place’ (10%), ‘teaching must be driven by what children already know’ (11%) and ‘learning has to have formative assessment to move it forward’ (9%), all of which we thought were too general to detail any specific link between formative assessment and learning (Figure 1.5).

There was the usual range of low frequency responses which we have encapsulated in the ‘other’ classification column (19%). These included the esoteric and unspecific, for example ‘it’s a continued cycle, teacher challenges children and keeps them motivated’, ‘so we all have the same philosophy’ and ‘the greater the quality of the formative assessment the deeper the learning process’. We also received responses that were vaguely formative, but at least linked to learning, for example ‘if pupils do not understand a concept this must be returned to’, ‘assessment is seen as an integral part of teaching and learning’, ‘quality feedback to signpost areas of work they need to concentrate on’ and ‘involves children in

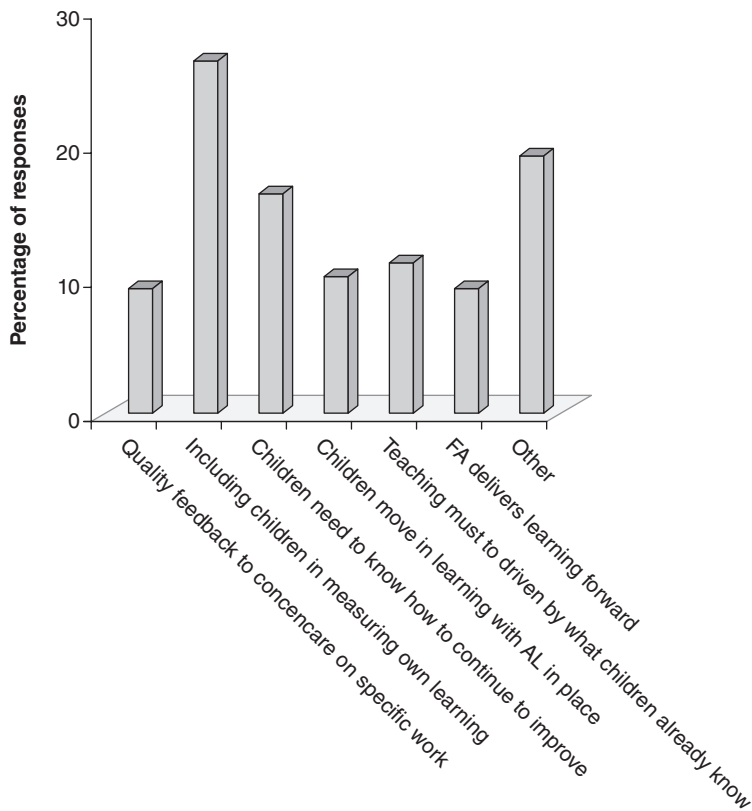


Figure 1.5 What links do you see between formative assessment and learning?

actively monitoring what they have to do next'. The latter signalled both the active involvement of the child in the process (a crucial component of formative assessment) and gave the authors hope that the 'next' referred to was actually a specific micro-learning step rather than a generalised statement of intent. The hope was soon dampened by a school response which 'formatively' stated the link between formative assessment and learning as 'only as a means of testing'.

Survey Question 5 specifically focused on the AfL principle of actively involving children in their own learning and asked how this was being done in practice. The highest supported response (29%) stated that children were involved in their own learning through 'self-reflection/self-evaluation' which seemed ambiguous to the authors as it was not clear (until we observed the teaching sessions) when, how or if this self-reflection took place, or whether the results of the self-reflection transferred into active involvement in learning. One in five schools (20%) identified 'setting own targets/reaching own targets' as an active involvement while 10% of schools reported 'learning styles/what they like to learn and how'. Twelve per cent of respondents reported 'gimmicks' as the route to actively involving pupils in their own learning, for example 'thumbs up/down/side-ways', 'WALT, WILF', 'star checkers', 'two stars and a wish', and of course the ubiquitous 'traffic lights' (Figure 1.6). The wide range of individual responses to using formative assessment covered the bold but unspecific 'HOW COULD YOU NOT!' (sic) through 'enthusiasm', 'circle time' and 'good plenary sessions', to the summatively oriented 'revision topics'.

Already AfL has collected too much 'clutter' of terminology; it is dominated by gimmicks (WILFs, WALTs, TIBs and OLI) rather than focusing on the specific understanding and practical application of formative assessment (FA), assessment for learning (AfL), continuous assessment (CA) and teacher assessment (TA). Just as the Education Reform Act in 1988 ushered in a plethora of abbreviations – SAT, AT, SoA, etc. – similarly, as our previous sentence illustrates, assessment now has its own potential for confusion through abbreviations. This confusion over terminology derives from a scant understanding of the works of the original formative assessment theorists, misrepresented or 'popularised' by the travelling consultants who see money to be made from the centre-periphery training model for AfL. 'Is there a formative assessment pack?' we were asked by one teacher, misunderstanding both the purpose of our visit and the purpose of formative assessment. If there isn't a 'pack', a download from the internet, do not expect it to be done, because that demands experimentation with pedagogy (frowned upon by School Leadership Teams and School Improvement Partners), and then inevitably deviation, which,

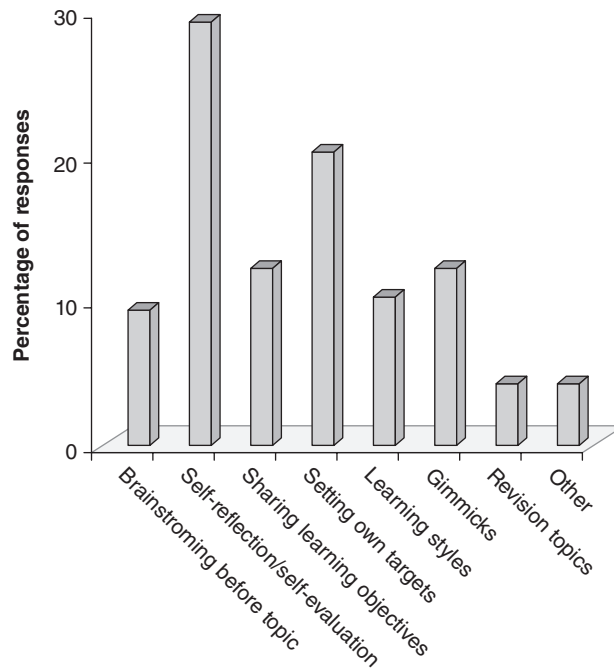


Figure 1.6 How do you actively involve children in their own learning?

contrary to the cynics, produces successful (and deep) formative teaching and learning.

Sadly, none of the above sample responses matched the research literature on understanding the involvement of children as co-constructors, self-regulated learners and negotiators of their own learning (see the work of Vygotsky, Perry & Thaulberger, Schunk & Zimmerman, Myhill, Wyse).

Discussion and implications

Following those varied definitions and understandings we have still to see a formative classroom or a teacher whose pedagogy is based on formative principles in any of our 43 observation visits to schools, despite these visits being based on the most ‘formative’ responses to our survey. We are, however, seeing a succession of teachers following a formula of planned predictability, controlling the content of the ‘three part menu’ which is being delivered to passive children. This rigidity has its pedagogical roots firmly planted in the National Numeracy and Literacy Strategies with ‘the formalism of highly structured lessons, whole class plenaries’ (Alexander 2008b, p. 107). Among the concessions to AfL,

from our observations, are the 'solitary' learning objective on the interactive whiteboard (how can one learning objective be adequate for the range of learning needs present in every class?). Our classroom interviews provided some informative responses from the teachers on that theme, such as 'But I have the top set [for literacy]' indicating that some teachers believed that they did not need to differentiate within a class which had been streamed (Boaler 2005; Dunne et al. 2007). We observed and were treated to rhetoric about 'doing' self and peer assessment and the free scattering of terms such as 'open questions', 'feedback', etc. There was no evidence of any of these strategies in place.

A typology

Differentiation

'If formative assessment is carried out on a fairly regular basis, the result is pressure to differentiate' (Perrenoud 1991, p.89).

The evidence from our sample indicates the notion of differentiated planning for teaching is not seen as a pre-requisite for formative assessment by the majority of teachers (only 7% of our sample states that formative assessment enabled the setting of differentiated targets for lessons. This is a still-strong legacy from the National Numeracy Strategy with its discouragement of differentiated teaching 'we are concerned that children should not continue to work at many levels, with the teacher placing them in a wide range of differentiated groups' (DfEE 1998, p.54) and' its format as a fixed curriculum to be taught to all pupils regardless of attainment indicates that very little curricular differentiation is recommended' (Brown et al. 1998). So strong that five years after Excellence and Enjoyment: The Primary Strategy we are observing a majority of lessons in which differentiation is totally absent. Why are we observing lessons with one static learning objective which embraces the whole extent of a class's learning? This signals two things. The pedagogical messages of the National Literacy and Numeracy Strategies in which differentiation was frowned upon and the absence of teacher understanding of the need for a differentiated menu to match the range of learning needs and the presence of a 'one size fits all' mentality are proving difficult to shift.

In conversation with teachers during our 43 school visits we raise the word 'differentiation' and the vagueness of the responses begins. We are told 'I set one task and then I differentiate by what they produce' or 'I have an extension task ready for those who finish'. Our observations indicate that this is what AfL in practice has been reduced to. The responses demonstrate misconceptions of the basic principles of how

children learn and the sacrifice of developmental learning on the altar of 'coverage', 'pace', 'moving the cohort on' and 'getting through the pre-planned package'. Clearly our initial teacher training programmes need to return to the conceptualisers and theorists of formative assessment to change technicians back to pedagogists. Principal amongst these theorists is Philippe Perrenoud whose philosophy is based on 'to the extent that pupils do not have the same abilities nor the same needs nor the same way of working, an optimal situation for one pupil will not be optimal for another... one can write a simple equation: diversity in people + appropriate treatment for each = diversity in approach' (Perrenoud 1998, p.93–4). In even simpler terms, 'good teaching forces differentiation' (Perrenoud 1998) is called for. Linda Allal reinforces the point, 'differentiation of instruction is planned rather than just being added on after observing difficulties' (Allal 2005, p.246).

Divergence

'So in the face of pace, objectives, targets and tables that have become part of the dominant linguistic and conceptual discourse of education reform in England, we might wonder how confident good divergent teachers will be to stray from pre-set paths for better pastures. We might wonder what the absence of divergent thinking will mean, in the longer term, for children's motivation and interest in their learning experiences' (Dadds 2001, p.53).

Dadds in 2001 described a scenario which has further deteriorated by 2009. In our classroom observations we keep looking for the first teacher who 'diverges' from the norm of the pre-packaged lesson. This is delivered (usually script perfect) around a sole common learning objective (or alternatively in some cases a 'whole class task') to the class who are then invited either (i) to talk to their partner, or (ii) to complete a common task, or (iii) indulge in an 'AfL professional development day' gimmick ('snowball', 'traffic lights', etc) or (iv) to wake from their lethargy induced by this format being repeated day after day, to recall some of the detail from the teacher's (lengthy) contextualising or introductory remarks. We see teachers 'covering' work at pace, we see teachers 'controlling' and imposing the narrowness of the learning agenda and forgetting that the learning is not in the tidiness of the schema but in the response, the involvement, the energy, the interest of the child as participant learner; learning is a 'messy' and complex process not a neat and tidy one. Therefore their misinterpretation of divergence as inevitably resulting in chaos and reduction in quality must be challenged. We need to see but are not, teachers having the confidence to relax that control, to allow children to be involved in the 'why?' am I doing this, 'what if?' and in the 'how?' can it best be done, and encouraging collaboration and conversation and children setting personal progressive targets.

In the classroom example below children were consciously or sub-consciously connecting prior learning to a present theme and they were re-drafting openly and orally their developing conceptualisation of counting in tens in a non-rigidly controlled classroom environment. This is an example, rare in our observations, of co-construction between the teacher and the child enabling the children's dialogue to expand by non-intervention from the teacher at the point of the first child's question, thus enabling the children to 'drive' the learning direction.

Mathematics lesson Year 1 children

Learning focus: counting in tens (10 more/10 less)

Context: The previous week the children had explored the concept of odd and even numbers. In this lesson the whole class was on the carpet exploring counting. The teacher recorded the following dialogue which took place as the children worked on grouping as part of the process of understanding the concept.

Teacher (T); Let's count to 100 in tens.

Burhan: Three sets of ten make 30 but it is an odd number.

Mohammed: Is it an odd number?

Burhan: Yes, it is odd.

T: Well is it an odd number?

Burhan: If you had three people, one would get 10, one would get 10 and one would get 10.

T: What about two people?

Reem: One person would get 5, 5 and 5.

T: How many is that?

Reem: 15.

T: What is that doubled?

Reem: 30.

T: Burhan, you can share 30 as 15 and 15.

In this formative classroom situation the children were demonstrating the following: they were consciously or sub-consciously connecting prior learning to the present theme and they were re-drafting orally and collaboratively their developing conceptualisation of 'counting in tens' in an open classroom culture. This is a genuine example of co-construction between the teacher and the group of children (through enabling the children's dialogue to expand and by non-intervention at the first child's

question) and of divergence from a planned format to enable the children to 'drive' the learning direction.

The misconception that the digit 3 makes 30 into an odd number is explored and rectified in group discussion. The teacher, by not closing the learning agenda by responding with an answer to the first child's question, has enabled the children to orally work through two concepts, ie multiples of 10 and odds and evens.

In conversation the teacher reflectively observed 'I should have given Burhan, Reem and Mohammed a task outside the main group to explore their own numbers'.

However, unlike the above example the norm is that far from the formative principles of involving children in their own learning, teachers are controlling the learning agenda even more firmly. 'Many schools give the impression of having implemented AfL when in reality the change in pedagogy that it requires has not taken place. This may happen when teachers feel constrained by external tests over which they have no control. As a result they are unlikely to give pupils a greater role in directing their (own) learning.' (ARG 2007, p.9)

Definition

'Formative assessment takes place day by day and allows the teacher and the student to adapt their respective actions to the teaching/learning situation in question. It is thus, for them, a privileged occasion for conscious reflection on their experience' (Audibert 1980, p.62).

On our visits to schools we ask teachers how they define their teaching, how they conceptualise their role, what their philosophy of teaching is. 'In terms of her philosophy for teaching and learning – this was something teacher F had not given any thought to. Much of her practice she claimed was based on the modelling of others she felt were worth copying.' (Case study school 5). We ask teachers if they think they are 'formative' teachers. To which they have replied in the majority, 'what does that mean, I have never heard of that before?'. We are wondering if teachers in 2009 need a philosophy. From 207 responses to a survey question 'what is your teaching philosophy based on?' and from 13 case study visits the typical response was 'that's a really hard one – I've never been asked that before' (school X), they certainly don't think they do. They are 'reliant on prescriptive centrally disseminated materials' from which 'politicians and bureaucrats are demanding greater conformity of education offerings which are transparent and superficially testable' (Patrick, Forde & McPhee 2003, p.239). They have 'Strategies' for most of the important things, ie numeracy, literacy, AfL, and 'Frameworks' to plan to and from and they have centrally supplied schemes of work to save the need for matching teaching material to developmental or

interest levels; in short they have been reduced to technicians. If they follow these formulae they are 'safe' and 'secure' in the accountability and auditing processes conducted by their own Senior Leadership Team. So, in summary, the central purpose for becoming a teacher has been lost. Our belief is that teachers need to understand and to embrace what formative teaching is. It is not disguised within a programme or strategy to improve 'level scores' and it should not respond to the summative bell but instead to the learning needs of the child, involving the child centrally in the origination and the development of his/her learning. One example from our observations centres on an experienced teacher who expounded widely on her formative practice, her current studying for a further degree and then spent the 40 minutes teaching time dictating language, content, control and materials in a closed format which did not enable the children to connect to or be involved in their own learning. In short, they did not see the relevance of the lesson (Vygotsky 1986).

Depth

'Teachers bring skills in devising and constructing tasks to elicit revealing and pertinent responses from children.' (Sadler 1989, p.80)

Depth of learning: this equates with the immersion of the teacher and the child in the teaching and learning process. Our search is to identify through our observations of teaching and in conversations with children, teachers and LA officers their priorities in planning for teaching and learning. How is an independent and lifelong learner developed? Is there a relationship between the intrinsic development of engagement, self-motivation, interest and research skills at an early stage of a child's education and current pedagogical practice? Is the current observed paradigm of controlling teacher/passive recipient moving at pace through a prescribed programme going to develop a generation of 'deep and reflective thinkers' and lifelong learners? From our recent classroom observations the authors' response is that in the current summative framework the chances of developing reflective children involved in self-motivated research activities is negligible. A missing component is the acknowledgement of the child as learner within the affective domain, in short acknowledging that social development is equally important as and a primary factor in cognitive development – but the latter is the area on which curriculum and assessment and therefore pedagogy focuses in a summative Standards agenda. The importance of a nurturing pedagogy is recognised by Reeves (1993) who argues that 'if we are to take quality seriously we have to get closer to our learners, their needs, their learning styles and their motivation' (Dadds 2001, p.53). The evidence of our observations across the 43 schools justifies the

necessity of reminding the teacher that he/she is working with discrete individuals, all with emotional and learning needs, not just delivering a centrally devolved teacher-controlled subject diet. Wink suggests that pedagogy involves human interaction and joy, of playing with new ideas and '[to] challenge all educators to look beyond the complexities and familiarities of their own teaching' (Wink 2005, in Graziano 2008, p.162). Within the current climate this position seems both irrelevant and unobtainable as the dominant discourse is one of controlling pedagogy and performativity.

Demythologising

'The search for theoretical frameworks could lead to an increasingly abstract vision of formative assessment cut off from the realities of classroom practice. This is why it is essential to articulate theoretical work with the study of how assessment is actually practised in the classroom' (Allal 2005, p.251).

Already AfL has collected too much 'clutter' of terminology; it is dominated by gimmicks (WILFs, WALTs, TIBs and OLI) rather than focusing on the specific understanding and practical application of formative assessment (FA), assessment for learning (AfL), continuous assessment (CA) and teacher assessment (TA). Just as the Education Reform Act in 1988 ushered in a plethora of abbreviations, ie SAT, AT, SoA, etc, similarly, as our previous sentence illustrates, assessment now has its own potential for confusion through abbreviation. This confusion over terminology derives from a scant understanding of the works of the original formative assessment theorists, misrepresented or 'popularised' by the travelling consultants who see money to be made from the centre-periphery training model for AfL. 'Is there a pack?' we were asked by one teacher, misunderstanding both the purpose of our visit and the purpose of formative assessment. If there isn't a 'pack' do not expect it to be done because that demands experimentation with pedagogy (to be frowned upon by School Leadership Teams and School Improvement Partners), then inevitably deviation (to be frowned on by everybody!) which, contrary to the cynics, produces successful (and deep) formative teaching and learning.

Our anticipation was that after six years of a national AfL strategy we would not just see the isolated individual formatively teaching but there would be in a majority of schools a shared learning community of formative teachers working collaboratively with children at the centre of the whole school's teaching and learning ethos and culture (Allal & Lopez 2005). From our survey responses and our observations in the classroom, the typology of five issues described above has emerged. Teachers for whatever legacy or conceptual reasons clearly have problems with

differentiation: 'differentiation implies the imposition of different curricula for different groups of pupils – or it means nothing' (Simon 1985, p. 126). The following of a formulaic 'lesson plan' seems to be the sole pedagogical model and there is no 'divergence':

so in the face of pace, objectives, targets, tables that have become part of the dominant linguistic and conceptual discourse of educational reform in England, we might wonder how confident good divergent teachers will be to stray from pre-set paths for better pastures. We might wonder what the absence of divergent thinking will mean in the longer term for children's motivation and interest in their learning experiences. (Dadds 2001, p. 53)

Understanding of formative assessment (or its synonym, AfL) in practical operation is poor so there is no clarity of definition: 'formative assessment takes place day by day and allows the teacher and the student to adapt their respective actions to the teaching/learning situation in question. It is thus for them a privileged occasion, conscious reflection on their experience' (Audibert 1980, p. 62). In terms of depth: 'teachers bring skills in devising and constructing tasks to elicit revealing and pertinent responses from children' (Sadler 1989, p. 80), 'coverage' has precedence over depth and security in learning, and the associated 'jargon' around the simple truth of formative teaching needs demythologising: 'the search for theoretical frameworks could lead to an increasingly abstract vision of formative assessment cut off from the realities of classroom practice. This is why it is essential to articulate theoretical work with the study of how assessment is actually practised in the classroom' (Allal & Lopez 2005, p. 251). These issues are itemised below with an introduction to each supplied by a theorist in the field.

Formative assessment: the learner, the teacher, the process

Formative assessment is synonymous with 'assessment for learning'. It is an intrinsic and essential part of teaching and learning and provides the specific information (elicitation of evidence) that enables teachers to support learning progress matched to the individual and complex needs of pupils. Pupils' learning needs have to be located at the centre of planning teaching and learning. This focus on identifying where pupils are in their learning (elicitation of evidence: formative assessment) and understanding how to support those learning needs with matched instructional strategies, will lead to improved teaching and learning (Allal & Lopez 2005; Perrenoud 1998).

Formative assessment requires the empowering of pupils to have more involvement in the learning process through co-construction of

learning with the teacher. The teacher needs to understand that assessment is a continuous process not a summative measure. The information (evidence) that the teacher elicits from formative assessment has to be planned into support for the pupil while the pupil is still involved (self motivated) in the learning activity. Professional development issues for teachers include introducing a 'formative toolkit' to support teachers in developing their formative teaching and learning awareness and strategies.

Conclusion

Formative teaching, learning and assessment is best summarised by Perrenoud as:

pupils do not have the same abilities nor the same needs nor the same way of working, an optimal situation for one pupil will not be optimal for another ... one can write a simple equation: diversity in people + appropriate treatment for each = diversity in approach (Perrenoud 1998, p. 86)

Pryor and Croussouard extend this definition of Perrenoud's and his philosophy of a change in the relationship or 'regulation' between teacher and child in the classroom: 'The educator teaches different definitions of him/herself to the students and develops different relationships with the students through them ... to become teacher, assessor, subject expert and learner, all involving different division of labour and rules shaping their interaction with students' (2008, p. 10). This is problematic to some teachers who have become used to the neatly planned rigidity and conformity of whole class teaching and the preparation of pupils to solve problems in specific ways to obtain good test marks. This is not teaching for learning because 'learning is messy and takes time' (Martin et al. 2005, p. 235).

Changes in classroom practice are central to the effectiveness of formative assessment. One of the focuses of professional development must be on the changing of roles between teacher and pupil. There is a need, therefore, to raise teacher awareness of what formative assessment is, the important role that children have in it, through negotiation, self-regulation and co-construction, and why formative assessment is important and how it can be incorporated into teaching.

For formative assessment to be effective in supporting and improving teaching and learning, both the teachers and the children must understand what they are doing. This raises the question of how well teachers are trained pedagogically as formative teachers. Teaching learning and

assessment is very demanding and difficult as teachers are required to make continuous assessments and incorporate the information they gain into their teaching and learning strategies.

Changes to classroom practice are central to the effectiveness of formative assessment. One of the focal points of teacher training must be an awareness of the changing role for teacher and pupil in the learning context (see Perrenoud quote above).

Formative assessment implies empowering the pupil to have more control over his/her learning, to understand the adjustments to his/her learning behaviours and thinking that are required, and is a continuous process not a summative measure.

Perrenoud establishes the model for the optimum state of pedagogy to be achieved by a well-trained teacher who understands that formative assessment supports the learner within a de-regulated classroom. Perrenoud insists that:

in the absolute an ideal teaching approach would do without all formative assessment. All the feedback necessary for learning would be incorporated in the situation, without it being necessary for a teacher to observe and intervene in order to bring about learning progress. In other words it would be absurd to proceed with formative assessment without first calling into question the teaching methods and without seeking, as a priority, to make the teaching situations more interactive and richer in spontaneous feedback. (Perrenoud 1991, pp. 94)

Perrenoud is boldly contesting the 'one size fits all' testocracy, the teaching to the test pedagogy which dominates so many schools' practices. His message to teachers is that differentiation is essential but differentiated teaching has to be based on teachers 'knowing' their pupils and where those pupils are in their individual learning trajectories. This is not the faux differentiation of allocating to groups and handing out 'differentiated' worksheets.

When one is thinking in terms of formative assessment, it is necessary to break with this egalitarian approach. There is no need to give all the pupils the same dose of formative assessment. The differentiation begins with the amount that goes into the observation and interpretation of the processes and acquisitions of each pupil. There is an analogy with medical diagnosis: it is not a case of carrying out the same tests, analyses and examinations on all patients. The important thing is to make a correct diagnosis and identify a disease and, if possible, its causes. In some cases the diagnosis is glaringly obvious and no particular analysis is required. In others, it entails a succession of hypotheses and checks which require specialists. Like medical diagnosis, formative assessment requires differential investment. (Perrenoud 1991, p. 96)

The reason for teachers coming under pressure to restrict the learning experience to testable domains has been made clear in the literature: 'Under pressure from bureaucrats to demonstrate achievement, schools which desperately need to cater to their pupils' diverse learning requirements are having to tailor teaching to the test' (de Waal 2006).

This has the inevitable consequence of a reduction in the learning content of children's taught experience: 'This has resulted in a huge distortion in primary school teaching and learning activity skewed towards the tested subjects and reducing teaching time for the non-tested subjects' (Boyle & Bragg 2006, p. 578).

Our research survey data reinforced that:

to enable a change to take place from an auditing to a teaching and learning culture in our schools, we need to accept that some professional development in 'using assessment to support learning' will have to take place – basically because after over a decade in which summative assessment (testing) has dominated pedagogy, teachers have either forgotten how to or lost confidence to incorporate rigorous teacher assessment into their planning for teaching and learning. (Boyle 2008, p. 21)

Another factor in the above is the change in the pre-service teacher training model which for the last 15 years has focused on the model of teaching for grading rather than preparing newly qualified teachers to support the learner and learning.

Research by Gipps et al. (1995) identified three broad categories of teachers in their approaches to classroom assessment: intuitives, evidence gatherers and systematic planners.

For intuitives, assessment is a kind of 'gut reaction'. They rely upon their memory of what children can do and so it was difficult for us to observe any ongoing teacher assessment or describe the processes they were using. Evidence gatherers particularly like written evidence, 'trying to get as much evidence as I can' is the aim of many of these teachers, one of whom described herself as a 'hoarder' who 'keeps everything'. Systematic planners plan for assessment on a systematic basis and this has become part of their practice. (Gipps et al. 1995, p. 36)

Torrance and Pryor (1998) investigated the practice of formative assessment in key stage 1 classrooms and reported on detailed classroom observations of 'assessment events', i.e. teacher-child interaction in the context of assessment, the act of teachers making judgements about children's achievement and how children understood those judgements. They conclude that young children have very little understanding of what it is that teachers want them to do or to achieve in curricular terms. They concluded that teachers need to be clear about their curriculum

goals, shorter-term learning intentions and the purpose of classroom tasks in relation to those learning intentions. They need to communicate those intentions and the purpose of tasks to pupils – i.e. communicate task criteria – as well as communicating what it means to do tasks well – i.e. quality criteria. Teachers also need to give feedback relating to those criteria, indicating positive achievement as well as what and how to improve, while being equally alert to unanticipated learning outcomes and encouraging them when encountered, i.e. be alert to the possibilities for divergent as well as convergent assessment (Torrance & Pryor 2007, pp. 616–18).