EDUCATION & TRAINING FOUNDATION

Reimagining assessment and tracking in maths and English: a review of the wider literature supporting the need for change

PROMOTE RELEVANCE *NEMATHS AND ENGLISH*

Who? - Everyone with responsibility for learners actively promotes the relevance and value of maths and English in relation to vocational learning and assessment.

ENGAGE ALL RELEVANT PROFESSIONALS Who? - All relevant

professionals (e.g. vocational, specialist and support practitioners) are actively engaged to support assessment including feedback from those in the workplace where possible and appropriate

ENGAGE LEARNERS

Who? - Practitioners support evaluate their learning as it happens, through reviewing, guiding and supporting learning activity both individually or in groups.

ACCESS SPECIALIST EXPERTISE

and experienced education practitioners review (and/or validate) a learner's strengths and learning support needs through direct interaction, particularly as a supplement to paper-based, or IT supported, testing

CONSIDER ALL ASSESSMENT AS AN AFL PROCESS What? - Consider all

assessment, whether initial, diagnostic or formative, as fundamentally the same process, with the same purpose (namely, Assessment for Learning).

LIMIT ASSESSMENT TO

WHAT IS NECESSARY
What? - Limit the amount and level of assessment to that which is essential for current goal setting, particularly in the initial stage of the learner's journey.

ASSESS FOR SELE-RELIEF AND MOTIVATION What? - Ensure that

assessment and regular reviews address learners' self-belief and motivation alongside their subject knowledge and abilities in maths and English.

SAFEGUARD CONFIDENCE

AND INDEPENDENCE
What? - Safeguard learners' self-confidence and independence in learning by identifying capability and strengths, and provide scaffolded guidance on the next steps to build on this foundation

ALLOCATE SUFFICIENT TIME

How? - Allocate time in sessions for learners to: record and reflect on the purpose and personal implications of their learning goals; monitor and evaluate their own progress and to seek help when needed: update personal progress records. Allocate time for

USE AUTHENTIC CONTEXTS

How? - Embed or contextualise assessment in authentic/realistic, realwork/life contexts.

ENSURE RECORDS ARE

How? - Facilitate learners to use their personal progress records to support and record regula reviews, as a 'living' and continually evolving 'plan for learning' that is learner-led, but teacher-supported and validated.

USE PERSONAL PROGRESS RECORDS EFFECTIVELY

How? - Use personal progress records to: review and agree learners' individual learning goals; review own delivery strategies for individuals or groups of learners: identify learners at risk of falling behind, support referrals and to aggregate progress and achievement data for MIS purposes.



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<u>Preface</u>	p.3
Introduction	p.4
The Learning Journey metaphor (chronological model of assessment)	p.5
Reappraising the status quo	p.6
Looking forward: evidence-based guidance	p.8
Reimagining assessment processes	p.9
Affective factors in assessment and tracking	p.14
Learner ownership of assessment and tracking	p.17
A paradigm shift in assessment and tracking?	p.20
A new lexicon and effective practice guidelines (EPGs)	p.21
Concluding remarks	p.22
References	p.23
The EPGs, in full	App A
A review of existing and legacy assessment methodologies	Арр В

Preface

This review was produced by the CETTAcademy team as part of an Education and Training Foundation project to review the current literature regarding the practices of initial and diagnostic assessment, as well as progress tracking, in the context of maths and English across the Education and Training sector. The project further required the development, evaluation and pilot-testing of a set of guidelines for assessment and tracking, grounded in valid learning theory and effective, evidence-based practice. This report was consequently drafted over the summer of 2016, with the intention of refining it throughout the autumn term, as testing of the guidelines progressed.

It was our belief at the outset of this project, based on our team's combined experience of working across the wider sector, that there was no shortage of either evidence or research, both nationally and internationally, on what constitutes effective practice in assessment and tracking. The pressing issue being, in our view, how can we ensure that knowledge of what is good to do, in this context, can be manifested in the professional practice of teachers, trainers and assessors who were (and are) under increasing pressure to improve maths and English outcomes in quick time and with learners who frequently lack the motivation and resilience to achieve.

The Foundation's starting point for this project was (clearly) a growing unease, stated within the tender documentation, and matching our experience within the sector, 'about the purpose and quality (or even existence) of initial and diagnostic assessment (IA and DA), expressed by teachers, managers, sector experts, learners and Ofsted'.......'There is also some suggestion that the requirement to conduct IA in particular is driven by a 'box-ticking' approach to judging quality in learning and has become divorced from the real needs of learners in the sector. However, the relationship between high-quality, purposeful assessment of English and maths skills and learner achievement is well-understood'.

Our intent, in creating this review, was therefore to:

- a) re-evaluate the *received wisdom* regarding assessment and tracking;
- b) to widen the well-established educational discourse relating to this with a review of relevant psychological constructs of learning and motivation that are often overlooked by the educationalist community;
- c) establish a clear and cogent argument of the need to *reimagine* how we 'do assessment and tracking' across the sector.

Ian Grayling (Executive Director, CETTAcademy)
January 2017

Introduction

The need to improve outcomes in maths and English, across the Education and Training sector, is now causing us to reappraise how well we are motivating learners to (re)engage and persist in achieving their learning goals. This is, of course, relevant to the entire curriculum, although it is accepted that maths and English is significant priority, yet also arguably attracts more motivational barriers than many other subject areas. This 'rediscovery' of the importance of motivational factors (self-belief/efficacy, resilience and learner engagement) in teaching, learning and assessment has been expressed consistently and strongly through the literature relating to Assessment for Learning (AfL) and Formative Assessment (FA), for some time now, and with renewed energy since the publication of Black and Wiliam's (1998) *Inside the black box*. A year later, the Nuffield Foundation's <u>Assessment Reform Group</u> stated (1999, p.1) that:

".... [a] review [of research into classroom assessment practice] proved without a shadow of doubt that, when carried out effectively, informal classroom assessment with constructive feedback to the student will raise levels of attainment. Although it is now fairly widely accepted that this form of assessment and feedback is important, the development of practice in this area will need a concerted policy-making push.

Nearly two decades further on, the need to 'reimagine' assessment and tracking is now critical.

Reimagining any well-established process, however, requires the ability to see beyond the status quo (a 'paradigm shift' in the terminology of Khun, 1962, p.3). One important aspect of this, maybe in the fullness of time, will be a need to adopt a new language for talking about (and therefore conceptualising) that which has become over familiar, but now needs to be viewed from a different perspective. In this context, this is particularly so where prevailing terminology, such as *initial*, *diagnostic* or *formative* strongly anchors the concept of assessment in a chronological construct of learning - and this is not to say that the concept of the Learning Journey is unhelpful or incorrect, for it is neither, but it may not be the best way to understand how to do assessment and tracking in ways which are more effective and more efficient. We will therefore argue in this review that the chronological model of assessment should be (at least) counter-balanced by a 'process model' which better explains how to 'do' assessment, effectively, rather than just 'when'.

Over the course of this project, it has become clear that a new understanding and new language of assessment and tracking will require the concerted policy-making push referred to, above, by the Assessment Reform Group, and that the necessary changes in practice are indeed worthy of being classified as a 'paradigm shift'.

The Learning Journey metaphor (chronological model of assessment)

Blanket initial assessment of literacy and numeracy skills was introduced, a decade and half ago, as part of the government's Skills for Life strategy (DfEE, 2001). Good Practice Guidelines (DfES, 2005) introduced the concept of a 'learning journey' which described a learner's progress from first contact with an institution to the completion of a learning programme. The learning journey comprised several distinct assessment stages including Initial, Diagnostic and Formative Assessment and Individual Learning Plans (see figure, below).

Initial Assessment was seen as an activity that happened before the start of a learning programme and was used to identify the learner's level of skills so that they could be placed on an appropriate learning programme at an appropriate level.



In this model, Diagnostic Assessment takes place at the start of the learning programme and identifies a learner's strengths and weaknesses and highlights skills gaps. This is then used to inform and structure the learner's Individual Learning Plans (ILPs). The ILP sets out what a learner plans to learn, by when, the ways in which they will undertake the learning and the resources required to bring the plan into action (DfES, 2005, p.21).

This structure is still in use today but there are suggestions that it may no longer be fit for purpose. In some

cases, the process has become mechanistic, driven by a box-ticking approach to quality and has become divorced from the real needs of learners in the sector. However, feedback from practitioners, together with all the literature cited here, illustrates that the relationship between high-quality, purposeful assessment of maths and English skills and learner achievement is well-understood.

Reappraising the status quo

Initial and diagnostic assessment

Current initial and diagnostic assessment practice is variable, ranging from wholesale use of commercial products or freely available tools to in-house designed induction procedures. The currently available, and legacy, tools are reviewed in <u>Appendix B</u>.

Recent policy changes, however, have made Initial Assessment superfluous in some cases. In particular, it is now a condition of funding that those learners who have not yet achieved a good pass at GCSE must continue to work towards this (although Functional Skills may be regarded as acceptable in the context of apprenticeships and traineeships). The 'appropriate learning programme' is therefore determined by policy rather than the results of any initial assessment process.

Where providers have continued to apply blanket initial assessment processes they have often found a disparity between GCSE grades obtained at school and the results of initial assessments.

"Many initial assessments suggest results which are significantly different from learners' existing qualifications; learners are often found to be learning at a different level than their GCSE attainment suggests." (The Research Base, 2014).

This may be the result of differences in the assessment objectives but could also be influenced by tests being conducted before the start of a programme and not capturing the learner's best performance (e.g. Roberts and Smith, 2014).

Commencing a learning programme with a test, even if the word 'test' is substituted with the less threatening 'check' or 'assessment' may create anxiety for learners. For many learners, such assessments may reinforce memories of earlier negative experiences of education (Edwards, 2013, p.181).

Initial and diagnostic assessments are often carried out during a brief induction period at the start of a programme; an approach perhaps supported by the view that, "Learners need timely initial assessments to identify support needs and for any additional support they require to be put in place as soon as possible. Any delay in either of these processes impacts on the time learners have to achieve" (Robey and Jones, 2015).

An extended initial assessment period may be preferable where learners work on programme-related tasks observed by a specialist teacher. A case study (Barnet and Southgate College – Young College) in a recent Ofsted survey found that "During a six-week assessment period, the college identifies the level and type of course that best suits individuals. ... Progression rates are excellent, with 96% remaining in further education" (Ofsted, 2014).

The results of initial and diagnostic assessment should enable teachers to plan individual support but Ofsted (2011, p.14) found that "in the weaker provision, tutors did not use the results of the initial assessments well enough to ensure that they planned learning that met the needs of all their learners". In the better provision, however, "tutors made good use of detailed lists of learners' abilities in numeracy and their development needs according to the results of the initial assessments".

Using the results of diagnostic assessment to produce a detailed list of maths or English topics and agreeing SMART targets with learners can be said to reflect a behaviourist view of teaching and learning. SMART targets may give you something that is straightforward to measure against and enable learners to recognise that they have made some progress but can send a message that learning occurs in an atomistic way and that discrete items can be identified,

learned and ticked off a check-list. There may be sufficient surface learning for the learner to achieve their target but this is not likely to result in meaningful and deep learning (Prinn, 2013, p.166).

An OECD study (Looney, 2007) identified some alternative approaches to initial and diagnostic assessment used in other countries. In France for example, they eliminated the early use of formal diagnostic assessments, arguing that they were off-putting for learners with previous negative experiences from school. They were replaced with a welcoming interview as the first step in an ongoing assessment process. Teachers found that they could make accurate diagnoses through informal dialogue and observation.

In Scotland, the previous experiences, values and feelings of learners are explicitly considered as part of locating their social, emotional and linguistic contexts. Emphasis is placed upon building on prior experiences and supporting the transfer of learning between the different contexts of college, work and home rather than on identifying skills deficits to be worked on.

It is our view, which will be explored further below, that there is a need to reconsider the terminology of 'initial, diagnostic and formative assessment' and to *tighten-up* the language of assessment and tracking to support its implementation in the learning environment (classroom or workplace),

Individual Learning Plans (ILPs) and Tracking

There is a tendency within the sector to consider ILP to be more strongly related to initial assessment than to ongoing, formative assessment. Ofsted (2011) reported that:

"The weaker providers either did not assess all their learners effectively, or tutors did not use the results of the assessments in sufficient detail to plan learning" (p.6) but "All apprentices completed an online diagnostic assessment as part of a package of initial assessments at induction. The numeracy tutor, vocational tutors, learning support assistants and apprentices used the results of the initial assessment thoroughly to agree detailed individual learning plans early on in the programme" (p.13).

Ofsted's reference to practitioners and learners agreeing *detailed individual learning plans early* on in the programme, seems indicative of a pervading view that ILPs are formulated at the initial stage of the learning journey and too often remain relatively static documents to be referenced as a reminder of what was initially agreed.

Further, NRDC interviews (2009, p.33) with adult numeracy practitioners highlighted the gap between knowing what is effective practice and (actually) implementing it. Practitioners reported that whilst they "valued both ILPs and learning objectives in principle" they also found the "actual practice time-consuming, bureaucratic and disconnected from learners' needs." ILPs were seen to be a good thing, but taking up too much of the teacher's time, which was regarded as 'in short supply'.

There is also concern that the effective use of ILPs has been usurped by the requirements of the funding agencies. "The philosophy of concern for the individual learner, the idea of sitting down with learners and discussing their needs and progress and the practice of differentiating teaching and learning to take account of individual needs" is to be welcomed (Sunderland and Wilkins, 2004, p.9) but it is possible to put the learners at the centre of planning without having to record, evidence and measure everything on time-consuming ILPs that "trivialise much of the good practice they were intended to promote" (Weir, 2005, p.29). The emphasis of concern here should, in our view, be on time consuming rather than on measuring and recording which is arguably implicit as a necessary aspect of assessment, although we would agree that the systems deployed to achieve this must however be efficient as well as effective.

Looking forward: evidence-based guidance

In <u>Appendix A</u>, we are proposing (12) draft Effective Practice Guidelines (EPGs) that are likely to challenge existing practice, as well as some established assumptions about the very nature of assessment and tracking. We view their purpose as being 'transitional', in supporting the sector to reimagine familiar concepts and practices but from a new perspective. It is our view, that once these EPGs have been evaluated in practice, it will likely take at least one-to-two years to embed them throughout the sector. At that point we recommend that they should be reviewed again, given the likely emergence of a wider impact on pedagogy and, potentially, learning design.

In reviewing the relevant literature and current policy drivers, three factors stand out as important for supporting this transition.

a) Reimagining assessment processes

Whilst the theoretical principles of effective assessment are well established, practice that meets these principles is far from universal across the Education and Training sector (e.g. Ofsted 2014). We will argue that bridging the gap between theory and practice will require the implementation of a more systematic process of AfL that includes the following components:

- effective target setting;
- effective and efficient monitoring and evaluation, as it happens in 'real-time', rather than sometime later;
- effective and efficient review processes.

The thesis being proposed here is that the sector is: (a) relatively good at target setting; (b) impoverished with regards to monitoring and evaluation; (c) moderately good at reviewing but tends to confuse this process with attempts to monitor and evaluate retrospectively. Provider institutions should also perhaps be concerned as to whether their prevailing pedagogical practices and, indeed, models of curriculum design are conducive to the level of individualised learning that AfL underpins and without which, it lacks both meaning and relevance.

b) Affective factors in assessment and tracking

"Learning involves the flowing together of the cognitive and affective domains" [Brandes and Ginnis (1986)], and we must remember that learners (of all ages) experience education emotionally as well as cognitively. Poor assessment and tracking processes, have a significant negative impact on learners' motivation and enjoyment of learning. Further, good assessment and tracking also facilitate learner engagement and motivation in number of related ways. The importance of this in the context of maths and English teaching and learning cannot by over emphasised.

c) Learner ownership of evaluation and tracking

Engaging learners in leading the process of evaluating and recording their own learning journey achieves two important aims:

- 1. it engages the learner more deeply in the learning process and makes them more aware of progress and challenges (to be overcome);
- 2. it 'frees-up' the practitioner to take a more facilitative role in guiding and validating the learners' own monitoring and evaluation of progress.

These three factor are considered in more detail below.

Reimagining assessment processes

Assessment **for** Learning is often misunderstood to mean periodic testing of attainment. This approach is, in effect, 'mini' summative assessment and predisposes teachers to check the outcomes of learning (or the lack of them) retrospectively, as stages towards final, or summative, assessment. This is Assessment **of** Learning and cannot, of its nature, support learning; it also runs the significant risk of demotivating learners through repeated testing (see below). Wiggins (1998, p.7-8) states that –

...the aim of assessment is primarily to educate and improve student performance, not merely to audit it. I use the terms auditing and audit test to describe checking up on activities after they are over, as accountants audit a business's books to check that all the financial records match over a fiscal year....

Harlen (2006, p.77) critiques assessment, in the sense of 'outcome testing', by concluding that -

- ... assessment can have a **negative impact on student motivation** for learning by:
- creating a classroom culture which favours transmissive teaching and undervalues variety in ways of learning;
- focusing the content of teaching narrowly on what is tested;
- orienting student to adopt goals as performance rather than goals as learning;
- providing predominantly judgemental feedback in terms of scores and grades;
- favouring conditions in which summative judgements permeate all teachers' assessment transactions."

Black and Wiliam (1998) were responsible for the early, and most significant, work in reconceptualising formative assessment. They did much to explain the difference between assessment that 'promotes', rather than simply, 'audits' learning.

"In order to make the difference quite clear it is useful to summarise the characteristics of assessment that promotes learning. These are that:

- it is embedded in a view of teaching and learning of which it is an essential part;
- it involves sharing learning goals with pupils;
- it aims to help pupils to know and to recognise the standards they are aiming for;
- it involves pupils in self-assessment;
- it provides feedback which leads to pupils recognising their next steps and how to take them:
- it is underpinned by confidence that every student can improve;
- it involves both teacher and pupils reviewing and reflecting on assessment data." (p.7)

Black and Wiliam's description of assessment that actually promotes learning is clearly hard to refute (and we wouldn't do so), but it raises a nagging concern as to whether prevailing teaching strategies and the design of learning sessions, coupled with the pressures on practitioners to 'pull' learners through their maths and English programmes within tight timescales, may be largely precluding this level of individualised learning support.

In practice, too much assessment punctuates the learning process, after the event, risking accuracy, currency and usefulness in correcting or affirming learning. In this form, assessment –

or testing - is something that is done to learners at a point when it is felt necessary to 'take stock' of what has been learnt and it is more relevant as summative (or interim summative) assessment. As such, this model of assessment has little value for the learner who has 'lost the plot', an hour previously and certainly not in the previous session/week/month. Waiting to the next 'quarterly review', or for the learner to submit their first substantive piece of project work, before finding out that they have not understood something, is leaving it too late. Learning must therefore be **monitored** and **evaluated** in real-time because it is simply the only way to identify and address 'blocks to learning' before motivation and self-efficacy (often, already fragile) is damaged. On the other hand, however, 'just-in-time' support, or acknowledgement of progress, are essential factors in the development of self-belief and resilience.

View from another perspective, assessment is a quality assurance process that is no different to any other. The process of quality assurance is to:

- 1. review the current situation and agree improvements goals;
- 2. set targets and plan actions that aim to achieve the required improvements;
- 3. monitor action, according to the plan, and evaluate the effectiveness of those actions;
- 4. repeat the process again from step one.

Monitoring, evaluation and review (MER) are well established concepts in quality assurance and project management and are particularly prevalent as a framework for governance in the primary education sector. A succinct and typical description of the MER process is provided by the Scottish Council for Voluntary Organisations.

Monitoring is the ongoing process of regularly collecting and analysing relevant information to make sure you are doing what you set out to do.

Evaluation is when you assess whether what you have been doing is really making the difference that you intended it to.

Review is when you look at the results of an evaluation and decide whether it needs to change.

A Process Model of Assessment for Learning

CETTAcademy had previously developed a 'process model' of AfL (see, <u>below</u>) that reformulates a range of prior research and theory from the educational and psychological literature that parallel the (MER) view of assessment as a quality assurance process.

As a *thought experiment*, we considered how a teacher might facilitate processes of assessment that will support learning (as it happens), rather than audit attainment (after it has occurred). This exercise led to a logical and common-sense set of conditions that clearly must be met before a quality assured process of monitoring, evaluating and reviewing of all learning progress – as it happens - can occur.

Hypotheses	Implications
a) AfL must relate to learning, as it happens (in 'real-time), otherwise it	However, can the teacher be sure that all learners (in a large group, or working remotely) are really
cannot be called Assessment for	engaging in the agreed learning activity)?
Learning. A reflection on learning	
cannot happen unless the learners	
is intimately engaged in their	
learning.	

b)	A strategy is necessary to ensure that all learners are engaging with the task throughout the guided learning period.	However, the teacher does not have time to lead (or 'police') engagement with all learners, at all times. So - i. can strategies for monitoring of engagement be designed into each learning activity? ii. can learners, rather than teachers, be the active agents in this? (Because teachers are unlikely to have sufficient time to do this.)
c)	A non-negotiable requirement for learners to track their own learning, during the learning task, will help to ensure engagement or make the lack of it visible (thereby enabling engagement to be monitored).	For this to be effective, the means of tracking must be very efficient for the learner to maintain and for the teacher to access. (The value of this outcome warrants any efforts made to design effective processes).
d)	Tracking should include an evaluation (by the learner) of how well they are progressing (or is not).	An evaluation of how well (or not) learning is progressing enables the teacher to acknowledge support needs, at an early point, and to prioritise support. It also further engages the learner in critical thinking that deepens their learning (Assessment as Learning).
e)	Learning that has been tracked (monitored and evaluated) can be reviewed with far greater reliability and efficiency than learning that has not.	Reviews require the teacher's subject expertise, to confirm or correct learning process and outcomes. Effective learner-led tracking provides a more reliable process for the teacher to make informed judgements. Reviewing can be triggered by a learner's evaluation ('help required') or as general motivational and informal process of coaching learners whilst they are actively engaged in a learning 'challenge'.
f)	A valid and reliable review process, by a subject expert, enables effective goal setting to support the learner's next steps. When goals are expressed correctly, they also facilitate the motivation to engage fully again.	For this to be effective, goals need to energise learners as well as direct the next stage of learning. Goals therefore need to be expressed in ways that are relevant and realistic in relation to the learner's values and aspirations for life and work.

The need to conceptualise assessment as a *process* was driven by the prevalent and repeated observation that most teachers in the sector understand the concept of AfL (or FA) but few are comfortable in describing how they should (or would) implement it, in practical terms.

It was also clear that AfL, implemented along the lines of our 'thought experiment', and particularly when underpinned by active learner-engagement, would also constitute *Assessment as Learning* because feedback and reflection is an intrinsic requirement of all learning. Earl (2003) distinguishes and promotes assessment that can be described as Assessment as Learning, arguing that learners should take ownership of (formative) assessment so as to understand better what and how they are learning in a deep and more coherent way, through monitoring and critically evaluating their own learning. This process, according to Earl, becomes intrinsic to learning itself rather than sitting outside of it. This view is well supported by the psychological theory of Metacognition which is the process of thinking about thinking, or

learning about learning. It is closely associated with the concept of critical self-reflection and learner autonomy, in which learners consider how effectively they are learning, as well as the value of the learning itself. Metacognition is the process by which learner-engagement in Assessment *for* Learning supports Assessment *as* Learning.

Jacobs and Paris (1987) describe metacognition, in this context, as -

- 1. **Planning**: the appropriate selection of strategies and the correct allocation of resources that affect task performance.
- 2. **Monitoring**: one's awareness of comprehension and task performance
- 3. **Evaluating**: appraising the final product of a task and the efficiency at which the task was performed. This can include re-evaluating strategies that were used.

The <u>Education Endowment Foundation</u> (EEF), an independent, charitable education improvement agency that has sponsored research into metacognition, summarised it as follows.

Meta-cognition and self-regulation approaches (sometimes known as 'learning to learn' approaches) aim to help learners think about their own learning more explicitly. This is usually by teaching pupils specific strategies to set goals, and monitor and evaluate their own academic development. Self-regulation means managing one's own motivation towards learning. The intention is often to give pupils a repertoire of strategies to choose from during learning activities.

Meta-cognition and self-regulation approaches have consistently high levels of impact, with pupils making an average of eight months' additional progress. The evidence indicates that teaching these strategies can be particularly effective for low achieving and older pupils.

The EEF suggest that education providers that wish to exploit the benefits of metacognition should consider the following.

- 1. Teaching approaches which encourage learners to plan, monitor and evaluate their learning have very high potential, but require careful implementation.
- 2. Have you taught pupils explicit strategies on how to plan, monitor and evaluate specific aspects of their learning? Have you given them opportunities to use them with support and then independently?
- 3. Teaching how to plan: Have you asked pupils to identify the different ways that they could plan (general strategies) and then how best to approach a particular task (specific technique)?
- 4. Teaching how to monitor: Have you asked pupils to consider where the task might go wrong? Have you asked the pupils to identify the key steps for keeping the task on track?
- 5. Teaching how to evaluate: Have you asked pupils to consider how they would improve their approach to the task if they completed it again?

The American Psychological Association (2015) describe the impact of evaluation and review in a way that is clearly parallel to a process model of AfL.

Evaluation and review are vital components of performance improvement. They help you understand how you are performing, whether you are reaching your goals, and they inform your decisions about what to do next. In essence, evaluations answer three questions:

1. What?

- 2. So what?
- 3. Now what?

(Practitioners may recognise, here, a well-known model for teachers' critical reflection on their own professional practice.)

The literature on metacognition also references processes of monitoring, evaluation and review (the latter described in terms of 're-evaluating strategies') and goal setting (described in the context of 'planning). This then forms the basis of the CETTAcademy, process model of AfL (see figure, left) which is an iterative process that is equally valid (with small changes of



terminology) as a model of quality assurance, action research or professional development. In the latter context, it requires practitioners and learners to work together to **review** prior achievement as well as associated enablers and barriers. This leads to an agreement about priority learning goals which must be relevant and clearly understood by the learner – because it is them that must do the learning.

Much of the existing literature on effective assessment practice can be more effectively operationalised

through implementation of learner-led, teacher-supported processes of goal-setting, monitoring, evaluation and review (MER). For example, the Nuffield Foundation's Assessment Reform group (1999, pp.4-5) propose 'five principles of assessment for learning', namely:

- 1. the provision of effective feedback to students.
- 2. the active involvement of students in their own learning.
- 3. adjusting teaching to take account of the results of assessment.
- 4. recognition of the profound influence assessment has on the motivation and selfesteem of pupils, both of which are critical influences on learning.
- 5. the need for students to be able to assess themselves and understand how to improve.

It is hopefully clear that all the above five principles would be satisfied by effective implementation of the CETTAcademy model of AfL. Further, real-time feedback, or knowledge of results, must be available wherever and whenever learning takes place. In relation to maths and English, for learners in the Education and Training sector, this will often include learning time spent with vocational teachers and, in many cases, work-based supervisors - in other words, without the direct support of a specialist (i.e. maths or English) teacher. Whilst, learnerled monitoring and evaluation will mitigate this, to a degree, it is also explicit within our model of assessment (as described above) that this should be facilitated, by a relevant subject specialist - in the sense of validating or correcting learner-led monitoring and evaluation. It will therefore be incumbent on provider organisations to establish effective means by which specialist support can still be delivered promptly, whilst maths and/or English learning is naturally occuring in vocational contexts. It is equally important that non-specialist practitioners and learning support staff feel empowered to refer concerns when they observe barriers to learning occurring in realtime, situated learning. Further, it should be noted that it does not require specialist maths or English expertise, on the part of the practitioner, to know when learners may be avoiding or failing tasks that intrinsically involve those skills.

Affective factors in assessment and tracking

The Assessment Reform Group (1999, p.5) describes the fourth of five "deceptively simple, key factors" in assessment that will improve learning as, "Recognition of the profound influence assessment has on the motivation and self-esteem of pupils, both of which are critical influences on learning". Three years later, the same group refined the link between assessment and its potential for positive or negative impact on learner motivation, expressing it more forcibly in its 10 Principles of Assessment for Learning (2002).

'Assessment should take account of the importance of learner motivation - assessment that encourages learning fosters motivation by emphasising progress and achievement rather than failure. Motivation can be preserved and enhanced by assessment methods which protect the learner's autonomy, provide some choice and constructive feedback, and create opportunity for self-direction'.

We would argue that the affective factors influencing assessment are many, complex, overlapping and interacting, and include:

- fear of failure, ridicule by peers, low esteem, etc;
- fear of change (learning to do things differently or thinking about things differently);
- lack of motivation or perceived relevance of the learning outcome;
- lack of self-belief/self-efficacy and (Bandura, 1986: Dweck, 2006);
- low expectations of success (Vroom, 1964);
- low levels of resilience to failures/setbacks;

..... and no more so than in situations of low literacy or numeracy.

Effective goals motivate as well as provide direction for learning. Whilst SMART targets or lesson aims and objects might be highly precise in explaining what is required, they rarely do much to inspire and engage learners, in practice. For example, NRDC (2009, p.43) report concerns regarding how assessment can damage learning.

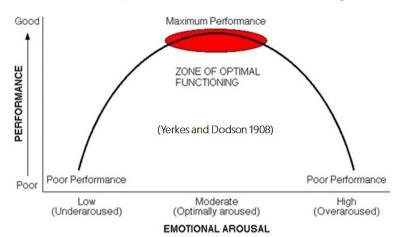
"Assessment is one of the key factors that affect motivation. Stiggins claims that teachers can enhance or destroy students' desires to learn more quickly and more permanently through their use of assessment than through any other tools at their disposal (2001: 36)." (p. 61-2)

How learners see the goals of engaging in a learning task determines the direction in which effort will be made and how they will organise and prioritise (or not) time spent for learning ... Goals will only be selected if they are understood, appear achievable, and are seen as worthwhile ...

..... we know from the formative assessment literature that all too often learners have very little idea of what and why they are 'learning' something and how important the sharing of learning objectives with learners is (Black and Wiliam 1998a). Our own work elsewhere suggests that one effective approach is the sharing of learning objectives via a process of negotiation with learners during the process of learning (Hodgen and Marshall 2005).

The 'art' of explaining learning goals, in ways that enable learners to understand their purpose or relevance to them personally, is an essential generic teaching skill within the dual professional role of the teacher. The teacher must be able to clearly explain the value of each stage of learning in relation to real-work or real-life both and, at least, be able to explain how the next goal fits within the larger learning journey.

In view of this emphasis on affective factors, it is legitimate to remind ourselves of relevant



models to be found within the psychological literature. For example, the early work carried out by Yerkes and Dodson (1907) on physiological or neurological arousal and performance (see figure, left), which has a long, respectable and robust history, has provided a physiological foundation that underpins later social-cognitive theories of learning. This model goes a long way to explaining and, arguably, simplifying the concepts of learner motivation, self-efficacy

and resilience or persistence that are grounded in the Attribution Theories of Bandura (1986) and Rotter (1966).

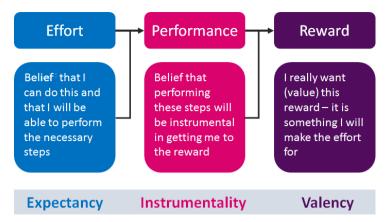
The Yerkes and Dodson model tells us that a certain amount of arousal (i.e. pressure or challenge) is necessary for learners - and all of us - to make the effort to learn and perform. It also explains how too much pressure or challenge can result poor performance. Later commentators from a range of disciplines (from sports to HR and education) have developed this basic principle by overlaying the concepts of 'zones' of learning or



performance'. In this extended model (see figure, right), we can see how learners with low self-efficacy may need a level of challenge that will 'push' them into the *growth zone* where intrinsic attributions of inadequacy can be challenged. It is repeated exposure to challenge, with the support of peers and practitioners, that leads to increased self-belief and resilience. It also follows, from this model, that it is equally important to avoid a level of challenge that exceeds existing capability, which will likely 'tip the learner over' into a state of excessive anxiety and panic, and thereby reinforce negative cycles of 'failure'.

This view of learning clarifies motivation, self-efficacy, resilience and, therefore, effective pedagogy. It is also a small leap to consider how challenge and *goal-orientation* coupled with the real-time knowledge-of-results provided by effective AfL help to ensure that learners are 'in the zone', whilst avoiding panic. Linking this more closely with the processes of assessment following the CETTAcademy model (discussed above) requires reference to a further, complementary psychological model of motivation.

Vroom's (1964) Expectancy Theory of motivation proposes three factors that lead to motivated behaviour - and all three are required (see figure, left).



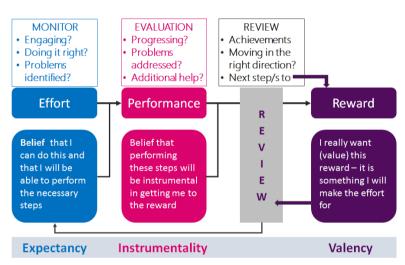
Simply put, and from right to left, these are a desire to achieve a particular outcome, a belief that (or trust in) a particular plan of action will lead to that outcome and, finally, the self-belief in one's own ability to make the necessary 'journey.

Hopefully, the relevance of this model to the setting of 'meaningful' learning-goals, self-efficacy, resilience and the learning journey, itself, are clear. It is interesting to note, however, that it is rare to find all three factors addressed

equally, if at all.

Nowadays, there is increasing recognition of the importance of self-efficacy in learning in general, and in learning maths and English in particular. Self-efficacy, in Vroom's model sits at the interface between effort (expectancy) and performance (instrumentality). Valency – the perceived value of the goal – however, is arguably something that needs 'more work', if learners are to be encouraged to engage more enthusiastically with English and maths learning. This must start with a clear and unequivocal message, from senior leadership teams to all learners (and all staff), and to all stakeholders (e.g. employer-partners), that maths and English are important for the future social and economic success of the learners, their families and their communities.

Expectancy Theory also shows how the MER process, inherent in the CETTAcademy process model of AfL, relates to motivation and learner engagement. Working from right to left, effective **Reviews** are the process by which learning goals are kept in sight, and their value explored. **Evaluation** keeps the learner engaged with their learning plan, building trust in its reliability, and encouraging resilience through overcoming barriers through timely support.



Monitoring grounds the learner in the learning experience, itself, focusing their efforts on the work of the moment and raising their awareness of things that help and those that hinder, in real-time.

In summary, assessment that facilitates learner engagement must:

- be built into learning activities that both energise learners with sufficient, but not excessive, levels of challenge (developing self-efficacy and resilience);
- be set within the context of learning goals that are made relevant and meaningful to learners;
- set-out a plan of learning that it is clear and comprehensible to learners with 'milestones' that are *situated* appropriately for learners' current stage of development and individual needs:
- enable real-time monitoring and evaluation of progress on learning tasks, that is learner-led and specialist-supported (with help from peers and other relevant professionals):
- include regular reviews that focus on progress and 'process' in ways that are meaningful (and ideally situated in authentic contexts).

Learner Ownership of Assessment and Tracking

Learners need to be intimately engaged in the assessment process to facilitate 'deeper learning', support self-efficacy and motivation and because it addresses the more practical issue of the practitioner simply not having enough time to carry out contemporaneous monitoring and evaluation with more than a small group of learners. This was discussed above [NRDC Interviews (2009, p.33)], and in the same study of effective teaching strategies to support 'formative assessment', researchers reported that:

If teachers are to incorporate more formative assessment, they will need additional structured planning time, particularly in the early stages of implementation. [p.40]

Fostering self- and peer-assessment presents challenges for adult numeracy teachers, but this study adds further weight to the evidence that learners themselves can be a resource for learning and the implementation of formative assessment. [p.41]

The importance and value of learner 'ownership' of assessment and tracking processes is consistently stressed across the entire literature about AfL and formative assessment. Practitioner-based studies tend to suggest, however, that tracking is more likely to be an unwelcome and bureaucratic responsibility of the teacher and that ILPs are not a valued process. For example, NRDC (2009, p.33) reported that -

In their interviews (30/11/07), the teacher-researchers raised the issue of ILPs and session objectives. All the teacher-researchers valued both ILPs and learning objectives in principle, yet found the actual practice time-consuming, bureaucratic and disconnected from learners' needs. The following comments are typical: we have to do the ILPs and they have to write down the lesson objectives. It's a directive from on high. The ILPs should be a good thing. It's good to think about, but they take a lot of time and time's something we haven't got a lot of. ... I think a lot about my students and what they need. [Teacher-Researcher Interviews]

The Skills for Life Improvement Programme (2008) recommended that tracking should be learner-led and that ILPs should be a dynamic working document, owned by the learner.

Record the outcomes of assessment for learning in the ILP. Encourage learners to complete the record themselves, with support if necessary.

Learners need to feel they own their records. Ask them to record a review, but if you write it up, make sure you use language that the learner understands.

- Ensure that the record stresses the positive and notes the learner's achievements, not just the next challenges
- The record should also note what was discussed, record important points made acknowledging the learner's contribution – and clearly state agreed future action.
- Recording also acts as reinforcement and can play a part in maintaining learner motivation. The written record is tangible proof of what the learner has achieved.
- Records of reviews will help both you and the learner to take a longer-term view. They demonstrate how far the learner has travelled since starting their programme.
- An effective individual learning plan (ILP) is at the heart of assessment, learning, support and achievement. It helps the learner to become an active, motivated partner in learning.

The ILP is:

- a personalised, flexible route map to guide each learner's journey
- a dynamic working document, owned and used by the learner, supported by teachers, employers and others
- a record of learning goals and progression routes, initial and diagnostic assessment information, learning targets, progress and achievements within different contexts for learning
- a communication aid between the learner and others who support the learning process in various contexts
- a way of making and reinforcing links and connections between topics, subject and personal, learning and thinking skills.

Guidance, by the Skills for Life Improvement Programme (2008), on how Assessment for Learning (AfL) should feed into an ILP, recommended that:

"Assessment for learning is the main process by which you and the learner will keep the ILP up to date. You can draw on assessment for learning to:

- review progress against targets
- celebrate progress and achievements
- identify new targets
- inform teaching and learning strategies
- involve learners in setting their own individual targets and learning contexts."

This document goes on to describe possible ways in which the ILP, as a 'living' and evolving record of the learner journey, can inform organisational performance management as well as teachers and other learning support staff roles.

measure their own success.	learning into contexts such as the workplace, community or leisure activities	
	plan opportunities for progression to further learning	

This view of the ILP emphasises a continually evolving or 'living' document rather than one that is completed at the beginning of the learner's programme, filed and then only referenced (if at all) retrospectively. The CETTAcademy believe strongly in the value of an effective, learner-led progress recording system. We recommend, however, that the current terminology of 'ILP' and 'Individual Learning Plan/Programme' be dropped in favour of an alternative that is less encumbered with negative associations and that clear expresses its true intent.

A Paradigm Shift in Assessment and Tracking?

In talking about their experiences of operationalising effective formative assessment, Black et al (2004) explain that -

....the learning environment envisaged requires a classroom culture that may well be unfamiliar and disconcerting for both teachers and students. The effect of the innovations implemented by our teachers was to change the 'classroom contract' between the teacher and the student - the rules that govern the behaviours that are expected and seen as legitimate by teachers and students. The students have to change from behaving as passive recipients of the knowledge offered by the teacher to becoming active learners who can take responsibility for and manage their own learning.

For the teachers, courage is necessary. One of the striking features of the project was that, in the early stages, many participants described the new approach as 'scary' because they felt they were going to lose control of their classes. Toward the end of the project, they spoke not of losing control but of sharing responsibility for the students' learning with the class - exactly the same process but viewed from two very different perspectives.

Earl and Katz (2006, p.70-1) talk about the impact of Assessment **for** Learning, and Assessment **as** Learning, on pedagogy and the culture of teaching and learning.

- Assessment for learning is premised on a belief that all students are capable of learning the
 intended curriculum, and that teachers have the requisite content knowledge and the
 pedagogical skills to find ways to facilitate students' learning. If a teacher does not hold this
 view, he or she may feel conflicted and may focus negatively on why it can't work.
- Assessment as learning requires reconceptualising not just assessment, but teaching and learning as well. Assessment as learning means giving up the more traditional constructs of transmitting knowledge, "managing" classrooms, and maintaining control, and instead redistributing responsibilities in classrooms. This major shift in approach (and consequently in the student-teacher power arrangements) can produce a sense of disequilibrium and dissonance.

In our experience within the sector, it is the sense of disequilibrium and dissonance that shifting the balance of power in the classroom creates, that is the greatest potential barrier for teachers in implementing proper AFL. The implications of AfL reach beyond assessment and create pressure for reconceptualising the fundamental principles of effective teaching and learning. This is, in our view, a change that is necessary and, given the rapidly shifting context in which education finds itself in these early decades of the Information Revolution, failure to adapt could render the current, prevailing role of the teacher unnecessary.

A New Lexicon of Assessment and Tracking

In 'reimagining' effective practice, we have found it necessary to avoid terminology that is either imprecise in its cross-sector usage, or that is conceptually rooted in a prevalent understanding of assessment and tracking that is now becoming questionable. We offer the following (working) draft of new terminology for the sector to evaluate.

Initial Review should replace Initial Assessment: we believe that determining, and validating a learner's prior achievement, current capability and appropriate learning pathway choices is essentially a review process rather than an assessment. We suggest that this terminology is also more learner-friendly and more in keeping with an extended period of evaluation, of the type advocated, above (p.5). We accept, however, that such an Initial Review may incorporate, and initiate, *Assessment for Learning* to 'finely tune' judgements made at this stage. This is however a qualitatively different process.

Assessment for Learning can and should replace Diagnostic and Formative Assessment: we argue that the current distinctions in assessment expressed by the terms diagnostic and formative are unhelpful. All on-programme assessment should be called AfL, because its primary purpose is the diagnosis of support needs at a level (granularity) appropriate to the stage and context in which the assessment is situated, with a view to providing formative learning support. We also believe that the term diagnostic (derived from a medical model) reinforces a deficit model.

Goals or Missions should replace Learning Aims, Objectives and Outcomes: because the need for this to be more learner-friendly and aspirational is more important than the distinctions between aims, objectives and outcomes, that are lost on most learners (and many practitioners). These are not new terms and have been used for some years to encourage a sense of personal relevance, in pockets of provision where this has seemed to practitioners to be particularly important (e.g. younger learners, special need or disengaged learners).

Learner Progress Records should replace ILP: we suggest this as a working, or umbrella, title. These documents need to be a 'living' and evolving record of AfL, and require a title that conveys a more 'forward-facing' and aspirational purpose. The use of the word 'plan' appears to skew existing perceptions of ILPs as documents to be completed at induction and then filed. It is also important that this document is accessible, at all times (whether paper or digital), and can be easily updated and maintained by the learner. Ideally, learners should be able to take pride in the continual development of this document.

Concluding Remarks

As stated in the preface of this document, our intent, in creating this review, was to re-evaluate the received wisdom regarding assessment and tracking. We have hopefully achieved this by reference to a broader discourse drawn from relevant psychological constructs of learning and motivation that are often overlooked by the educationalist community. Our overall intent was to establish a clear and cogent argument of the need to reimagine how we 'do assessment and tracking' across the sector. Above all, we hope that this document and the Effective Practice Guidelines (Appendix A) will, together, help to drive the concerted policy push that the Assessment Reform Group asserted as necessary back in 1999.

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Effective Practice Guidelines (EPGs) for assessment and tracking in maths and English

Who is responsible for initial/diagnostic assessment and tracking?

1) Everyone with responsibility for learners should actively promote the relevance and value of maths and English, in relation to vocational learning and assessment and future personal (economic and social) success.

Managers, practitioners, employers and learners must be clear about the impact of maths and English on learners' future economic and social success, and the 'ripple effect' on learners' families and the communities in which they live and work.

This will require a clear expectation, unequivocally stated by senior leaders and effectively communicated to all stakeholders and learners.

Providers will need to explore how best to encourage the active involvement of employers, where relevant.

Organisational considerations:

Managers need to be confident and assertive in explaining and arguing why maths and English are important. The following questions may be helpful.

- 1. What is the value of maths and English in relation to learners'
 - progress, vocationally or academically?
 - future social and economic success?
 - family, now, in the future and through future generations?
 - community?
 - peers, following the same vocational programme?
 - employer?
 - teacher/trainer/tutor?
 - provider institution?
- 2. Does your organisation have a clearly-stated aspiration (e.g. a vision statement) with regards to maths and English and if not, what do you need to do about it?
- 3. How do you ensure that your practitioners (e.g. teachers, trainers, assessors, learning support staff, etc) fully understand this aspiration and actively promote it?
- 4. How do you involve employers (where necessary) in reinforcing this aspiration?

Who is responsible for initial/diagnostic assessment and tracking?

2) Effectively engage all relevant professionals (e.g. vocational, specialist and learning support practitioners) to support assessment, according to their expertise, including feedback from those in the workplace where possible and appropriate.

All professionals who work with a learner must assume some responsibility for supporting 'Assessment for Learning'. Feedback that is situated at the point of learning has far more impact than that given at a later point.

The nature of the support given will depend on the expertise and capacity of the professional involved and managers should consider how to facilitate infrastructures of support throughout the entire 'chain' of provision.

Providers should therefore consider the range of professionals who are available to support the learner's development in maths and English, and the parameters within which this can and should take place.

Organisational considerations:

Assessment for Learning (AfL) does not always require specialist subject knowledge on the part of the professional working with a learner. For example, a work-based supervisor who also lacks confidence and competence in maths and English can still *monitor* when a learner may need support in those skill areas – given the right working relationship.

AfL starts with the observation, or knowledge, that the learner is able to engage with activities: *no engagement* equals *no learning. Monitoring* engagement is the first tool that anyone can use (including learners, themselves) without having to have specialist knowledge.

Some professionals who work with the learner may comfortably go further by *evaluating* the nature of the learning barrier – or may prefer to pass this onto a colleague with greater skills and knowledge in that context.

It can be enough for the provider institution to know that the learner is avoiding (or struggling with) certain tasks and that this needs to be followed up; and this is one example of how the purpose of AfL is different to that of 'testing' which does require specialist tools or knowledge – AfL supports learning whilst it is happening, whilst testing can only do that retrospectively.

The key point here, and possibly the most important, is that **learning barriers are flagged-up as they occur, and are dealt with or referred on, immediately** – and all professionals working with the learner, including work-based supervisors, have a role to play in this. Managers need to define these responsibilities and enable communication processes that facilitate rapid referral and information sharing.

Who is responsible for initial/diagnostic assessment and tracking?

3) Require and equip learners to monitor and evaluate their learning, as it happens - enabling the practitioner to review, guide and support learning activity, individually or in groups.

Learners need to know that they are 'doing it right' and making progress in every learning activity. 'Knowledge of results' is intrinsic to learning and therefore assessment cannot be a 'bolt-on activity', occurring only as a retrospective evaluation at the 'end of learning'.

Learners' engagement in assessment and review enables them to see, more clearly, how they are overcoming obstacles and achieving incremental steps towards agreed learning goals. When learners record their own progress, reflecting on experiences of overcoming difficulties, this challenges negative self-perceptions of inadequacy. This process increases resilience, self-belief/efficacy and a positive self-image in respect of maths and English.

Teachers will need to help learners to develop the skills to monitor and evaluate their learning and to avoid beliefs about their learners that may limit expectations in this respect. Provider organisations should consider how digital and mobile technologies could facilitate assessment processes for both learners and teachers. SEND providers and teachers will need to consider the extent to which their learners can engage meaningfully in their own assessment.

Organisational considerations:

Assessment for Learning (AfL), and the process of it, is either explicit or implicit in each of these Effective Practice Guidelines. This guideline emphasises the learner's' role in monitoring and evaluating learning (themselves, or as peers), as two essential processes of AfL. *Monitoring* and evaluation require (only) that we can be sure that learners are (a) engaging with the learning activity and (b) if not, why not?

Requiring learners to actively track and record their learning progress (see also EPGs 9 and 11), ensures their engagement in monitoring and evaluation and, of course, the learning itself (or places lack of engagement 'on record'). This removes a significant burden on the teacher for record keeping and leaves them to circulate, engage with learners and to facilitate this process. The teacher also has more time to record brief notes ('float and note') for a later *review* (whole group, small group or individual).

Underpinning this process, is the confidence of the teacher to rely on their subject expertise to respond to issues arising with learners rather than to project a pre-prepared 'teaching script' onto them. Further, it should be noted that this approach in no way precludes the achievement of preplanned learning aims as outlined within the Scheme of Work (but will, likely require that to be a flexible, 'working' document).

Who is responsible for initial/diagnostic assessment and tracking?

4) Review (and/or validate) a learner's strengths and learning support needs through direct interaction with relevantly qualified and experienced education practitioners, particularly as a supplement to paper-based, or IT-supported, testing.

Effective reviews of learning capability and learning need, and particularly at the early stages of the learning programme, require specialist expertise to monitor and evaluate learners through observation and dialogue. This process requires contact with the learner over a period of time rather than as a one-off event.

Formal testing may be counter-productive with learners who have become test-averse, impacting negatively on the learner's expectations motivation and particularly so during early contact with the provider institution.

For assessment to be effective, it should involve specialist maths and English staff so they can diagnose why learners have arrived at their answers/ responses. It is important to know why learners struggle to do something and not just if they are able to achieve a particular test or not (e.g. English miscue analysis or identifying maths misconceptions).

It follows that providers need access to experienced and qualified maths and English specialists and to make efficient use of their time in support of learners and colleagues.

Organisational considerations:

Reviewing is a process in which practitioners **with subject and curriculum expertise** help learners to make sense of where they are on their learning journey and what the next steps (learning goals) should be. It happens when a specialist practitioner takes time with the learner to 'take stock', reenergise and, sometimes, realign learning to achieve the next goal.

Testing, may be useful in providing a 'snapshot' overview of current knowledge, understanding and skills, but it can also be a 'blunt instrument' in:

- unnecessarily testing beyond the issues that are currently in focus (and unnecessary testing can be damaging to learners' motivation and esteem);
- identifying the point in the learning process where learning became blocked or misconceived. 'Testing' can, at best, support an expert **review** of learning achievement, but is less likely to provide valid and reliable **evaluation** of the process of learning.

5) Consider all assessment, whether initial, diagnostic or formative, as fundamentally the same <u>process</u>, with the same purpose (namely, Assessment <u>for</u> Learning).

It is no longer helpful to define assessment by discrete stages. It is more helpful to regard assessment as continuing cycles of reviewing, monitoring and evaluating learning, which are fully situated in the 'needs of the moment'. The purpose of assessment in this context is always to empower the learner to progress further and to reinforce self-belief/efficacy and build resilience.

It should also be noted that 'reviewing' is qualitatively different to 'assessing' (which is essentially a process of 'monitoring' and evaluating' progress in learning). These process steps can be summarised as follows.

Reviewing (1): what has been achieved so far and what further support may be needed?

Reviewing (2) - Goal Setting: agreeing the next stage of learning and defining meaningful goals.

Learning Activity (ideally, requiring active engagement)

Monitoring: is the learner engaging (or able to engage) with the learning activity?

Evaluating: is the learner learning the right things, in the right way, and are blocks to learning being identified and overcome?

From the perspective of a 'process' view, it is apparent that Initial Assessment is fundamentally a 'review' process that may be supplemented by further engaged learning, monitoring, evaluation and review to validate prior achievement and to determine learning priorities.

Organisational considerations:

An over-emphasis on the 'stages of assessment' can easily obscure an understanding of assessment as a **process**, and one which is **intrinsic** to 'learning itself' rather than a **retrospective** 'test' of the 'results of learning'.

Conversely, an understanding of the process of assessment (for learning) is helpful in reimagining assessment as pivotal at all stages of the learning journey.

6) Limit the amount and level of assessment to that which is essential for current goal setting and particularly in the initial stage of the learner's journey.

Avoid unnecessary testing. It is not necessary to assess the full breadth of learners' mathematical/English abilities at the start of their programmes. It is also no longer necessary for every learner to have their level assessed for screening purposes because, for some learners, their goal (e.g. a GCSE) is already set.

At early points in the learner journey, the focus of review may be on prior achievement and current motivational orientation. Later, knowledge, understanding and skills requirements are likely to be more finely detailed as the learning programme becomes more 'advanced'.

Organisational considerations:

There is considerable evidence now that over-assessing (assessing more widely and deeply than what is **currently** required) is likely to impair learners' motivation and self-esteem. This has implications for both the ethos and the methodology of assessment.

The Ethos Issue: (a) is there a belief that comprehensive assessment is more efficient and effective than 'just-in-time' assessment and (b) is its purpose more aligned to MIS or learners' needs?

The Methodology Issue: should assessment be a 'bolt-on'/extrinsic and periodic process or a 'built-in'/intrinsic and continuous process.

Basing a learner's entire learning programme on the results of a one-off, fully comprehensive Initial Assessment is arguably akin to long-range weather forecasting and likely to be as inaccurate and unreliable.

7) Ensure that assessment and regular reviews address learners' self-belief and motivation alongside their subject knowledge and abilities in maths and English.

Learning may be blocked at any point by a lack of prior knowledge, understanding and/or skills. It is, however, also essential to know when blocked learning is the result of low self-belief and repeated failures to deal with 'setbacks', resulting in anxiety and poor motivation. This is a common issue in relation to maths and English.

Organisational considerations:

Do your teaching, assessment and learning-support colleagues have the confidence and skills to identify, support or refer issues relating to learners' anxiety, low self-belief and poor motivation?

EPG 3 emphasised how learner engagement in **monitoring** and **evaluating** their progress (through recording/tracking) supports progress and motivation. The converse of this is that an absence of (recorded) progress is a clear sign of blocked-learning and points to the need for an ad-hoc **review** of the situation with the learner. Learning involves both the cognitive and affective (emotional) domains [Brandes and Ginnis (1986)¹] and we need to remember that learners (of all ages) experience education emotionally as well as cognitively. Effective questioning and **active-listening** enable the practitioner to **review** the causes of 'blocked learning' - ideally, 'at the time', whilst other learners are actively engaged in problem-centred learning, or very soon after, at the 'earliest opportunity'.

The emotional factors that underpin learning and assessment are generally well-known, such as -

- fear of failure or ridicule;
- fear of change (learning always means leaving the 'comfort zone', doing things differently or thinking about things differently) it is a process of 'change' which may in itself provoke anxiety;
- lack of self-belief or self-efficacy [Bandura (1986)²] leading to low expectations of success, a lack of resilience when faced with failures/set-backs and low self-esteem;
- the learning outcome is perceived as lacking of relevance or personal importance.

All of the above will likely impair motivation, engagement and achievement.

¹ Brandes, D. and Ginnis, P. (1986) A Guide to Student Centred Learning. Oxford: Blackwell

² Bandura, A. (1986) The explanatory and predictive scope of self-efficacy theory. Journal of Clinical and Social Psychology, 4, 359-373

8) Safeguard learners' self-confidence and independence in learning by identifying capability and strengths, and providing scaffolded guidance on the next steps to build on this foundation.

Reviews must avoid a 'deficit' or 'medical model' (i.e. diagnosing / screening for 'needs') and the tendency to stereotype learners. It should affirm current proficiency and set targets that, whilst challenging, lead to cycles of success rather than repetitive cycles of failure. This enables learners to build self-belief/efficacy.

Effective and timely intervention, when learning is "off mark" or "falling short", should focus on positive strategies to correct and redirect learners towards achievement in order to build future resilience.

Organisational considerations:

In relation to learning and assessment, a **review** (literally, from its Latin root) 'looks again' at:

- what has been achieved so far (based on the learner's **monitoring** and **evaluation** of the learning experience and its outcome);
- what remains to be accomplished (as above);
- any issues arising that require action and agreement on the necessary next steps.

Each of these three components of a review require the practitioner to be sensitive to the potential affective (emotional) impact on the learner.

What has been accomplished: even positive feedback needs to be critically objective and must relate to specified learning outcomes and learning process rather than learner, as personal attribution [note, Dweck (2006)¹]

"Your final calculations are accurate and your approach to solving this problem is quite creative", rather than, "You can be very good at calculating and this shows that you are quite creative".

What remains to be achieved: although this may be construed as negative feedback, it can still be delivered in a positive way.

"If you can just work on checking your calculations at key stages so that your overall result is correct" rather than, "You don't seem able to see where you are going wrong, and that means you are getting wrong all of the time".

Next steps: these need to within the learner's scope and make sense to them.

"Try the next example, but this time plan out how you will check your results, and I'll come back and look at it in a few minutes", rather than, "See if you can do it better in the next example".

Dweck, C.S. (2006) Mindset: the new psychology of success. New York: Ballantine Books

- 9) Allocate time within sessions for learners to:
 - record and reflect on the purpose and personal implications of their learning goals;
 - monitor and evaluate their own progress and to seek help when needed;
 - update **personal progress records** (tracking) and for practitioners to review and validate these.

Assessment (monitoring, evaluation and review of learning) is, in itself, an integral learning strategy, facilitating deeper learning in the moment – as opposed to creating notes for (in the hope of) later learning, or even homework. Adequate time must be allocated within a learning session to allow this to happen.

The practitioner's role (and expertise) should focus on checking learner progress evaluations and guiding learning rather than being the sole source and medium for knowledge and skills.

Organisational considerations:

EPG 3 advocated the need for a learner-led process of **monitoring** and **evaluating** learning. A small minority of practitioners may feel that this wastes valuable teaching time and is only of bureaucratic value. In reality, giving learners time to reflect on, and to track, their learning gives them greater confidence and leads to deeper learning (essential for problem solving in unfamiliar contexts) and increased learner autonomy.

Most important of all, learner-led **monitoring** and **evaluation** is the most efficient method of qualifying and quantifying both progress and problems in learning, at any given point within the learning process. When appropriately skilled practitioners **review** and validate this information in dialogue with learners, this then becomes the most reliable method of (a) supporting progress and achievement for **all** learners and of (b) obtaining valid data to support the quality of teaching and learning. With the relevant information easily and instantly accessible, **reviewing** progress with learners becomes a highly efficient process and made even more so when learners are engaged in active, problemcentred learning, leaving the practitioner to interact in a more learner-centred way.

Processes and procedures are only bureaucratic if we make them so, and this typically only happens when they:

- are imposed from the top-down and lack the involvement of the end-users (learners and practitioners) at the design stage;
- are insufficiently piloted, reviewed and revised, where necessary;
- concentrate, unnecessarily, on format rather than on outcomes.

EPG 11 provides further guidance on the purpose and outcomes of a learner-led tracking system.

10) Embed or contextualise assessment in authentic/realistic, real-work/ life contexts.

Engagement in maths and English needs to be meaningful in relation to learners' individual real-work and real-life experience and personal goals. It also needs to be relevant to the current stage of their learning journey (i.e. building, incrementally, on what has gone before and laying the foundation for the next stages of the journey – and with the goal always in clear view.) This is an essential part of fostering learners' expectations of success and achievement (i.e. motivation).

This guideline should also be considered as the default position in respect of SEND learners.

Organisational considerations:

Maths and English assessment (and, of course, learning) needs to be embedded or authentically contextualised because it is:

- more relevant for the learner (it's not just a 'motivational thing', but also about a 'constructivist approach' to build learning from the **familiar** to the **new**).
- more relevant to current practices in the workplace or the world at large.
- an expectation (like it or not) of Ofsted and current policy drivers such as <u>CAVTL</u>.

Maths and English are already **embedded**, to varying degrees, (*naturally occurring*) in all aspects of work and life and the issue for provider organisations and practitioners is how do **specialist practitioners** exploit this naturally occurring resource. Provider institutions might consider:

- can Schemes of Work be co-designed with employers and vocational practitioners?
- are learners able to bring real work/life maths and English into the classroom?
- can 'boundary workers' such as assessors support employer-provider cooperation in identifying and creating meaningful assessment opportunities?
- what protocols of communication and information sharing would be necessary to support any or all of the above?

It is unlikely that all of the required maths and English outcomes can be achieved in this way, but opportunities to exploit and enrich naturally occurring maths and English are often overlooked due to poorly developed (low value-added) employer-provider relationships. Such an approach will however challenge 'one-size-fits-all' curriculum models, delivered in a predetermined linear fashion.

It is also essential that managers challenge the mistaken belief that practitioners must create lots of set-piece assessments, based on extensive research in vocational contexts with which they are not professionally acquainted. Apart from anything else, this approach reflects a periodic, 'bolted-on' approach to assessment rather than 'built-in' Assessment for Learning.

11) Learners should use their personal progress records to support and record regular reviews, as a 'living' and continually evolving 'plan for learning' that is learner-led, but teacher-supported and validated.

A 'personal progress record' must be a 'living' and evolving document rather than a static plan that is fixed at the start of the learner's journey which can be implied by the term 'Individual Learning Plan'. The learner's personal progress record (however it may be called) should fulfil the role of a continually updated plan for learning, recording iterative cycles of assessment, review and goal setting. It should be 'owned' and maintained by the learner with the support of the practitioner.

Ideally, it should be expressive, engaging, quick to up-date and (importantly) instantly accessible, enabling practitioners and learners to view progress in seconds and to review it, in minutes. It should also ensure that 'end goals' are always in sight.

Successful learner engagement will depend, in a large part, on:

- a) an explicit, and non-negotiable, requirement for learners (including with SEND learners, wherever possible) to assume responsibility for maintaining this record;
- b) the format, medium and design of this record meeting the needs of both learners and practitioners.

Managers, practitioners and learners (together) should consider how information and communication technologies might support the creation and maintenance of the personal progress record. They might also consider how learners can personalise this process whilst maintaining ease of use and accessibility for all stakeholders.

Organisational considerations:

The requirement for learners to use a **Personal Progress Record** (or by whatever name you prefer*) to **monitor** and **evaluate** their learning (see EPG 3), should be written into their learning contract. Further, learners are more likely to feel they have an investment in this process if they are able to design the format, media and 'look' of it. It must however be capable of quick and easy maintenance by the learner, and be instantly accessible for the practitioner when *reviewing* progress - or the reasons for a lack of it - and agreeing and recording learning goals.

^{*}Individual Learning Plan/Programme; Personal Learning Plan; etc

12) Practitioners should use personal progress records to:

- review and agree learners' individual learning goals;
- review own delivery strategies for individuals or groups of learners;
- identify learners at risk of falling behind, support referrals and to aggregate progress and achievement data for MIS purposes.

A continually updated (i.e. 'real-time') record of learner progress:

- ensures current, valid and reliable information on learner progress and support needs;
- supports meaningful and purposeful review based on real-time monitoring and evaluation;
- enables practitioners to engage the learner in setting differentiated learning goals;
- supports quick, real-time, evaluation of risk in relation to individuals or groups of learners (e.g. by RAG rating) and subsequent referral for support from other learning professionals and/or managers;
- enables the maintenance of 'up-to-the-minute', MIS data on learner progress and at-risk individuals and groups.

Organisational considerations:

Practitioners will need to establish their own ways to 'lift' important individual learner information (e.g. causes for concern, additional support needs, etc) from personal progress records and into a centralised record of priorities for action, which may include:

- referral to colleagues;
- · revising or differentiating planned learning activities;
- discrete (rather than embedded/ad hoc) review sessions:
- supporting learners who are 'at-risk' (in any sense);
- compilation of whole class progression data or in respect of designated sub-groups (e.g. protected characteristics).

Provider organisations will need to consider how to use the upward flow of information from personal progress records to ensure that organisation-level management information is (very) current, valid and reliable.



Report on Maths and English Initial and Diagnostic Assessment and Tracking Tools and Approaches

(June 2016, CETTA for the Foundation)

The tools and approaches outlined below include those used by most post-16 education and training providers in England to assess their learners' maths and English strengths and development needs at the start of their programmes. Some of the tools are commercially available and automatically generate an individual learning plan (ILP). Others also link to teaching and learning materials, in some cases, automatically linked back to the ILP for tracking. Some of the tools/approaches listed are no longer used but their features are still of interest.

The table is organised into the following sections:

- Assessment type (e.g. Online multiple choice questions or self-access)
- Purpose (e.g. To identify a learner's maths/ English 'level')
- Cost (if any)
- · Is an ILP attached/ auto-generated
- Is there a linked tracking tool
- Is there assessment of values and beliefs (Affective Domain)
- Notes (e.g. Responsive assessment, Full coverage of maths/ English)

Following this table is a short summary, based on desk research, of tools and approaches used in other nations in the UK, Europe and the world. The purpose of sharing these wider-used tools is to present alternatives to those used in England.

Assessment tools (England)

Tool/approach	Assessment type	Purpose	Cost?	ILP?	Tracking?	Affective?	Notes
1.SfL initial assessment Once available online at the 'Tools Library' now only on CDs (legacy)	Online, multiple choice Qs (MCQs)	To identify learner's level (E1 - L2) and point to DA level.	Free	No	No	No	Available in different contexts (e.g. Logistics, health care), Not full coverage of skills. Responsive based on learners' answers.
2. BSA initial assessment Once widely available, now only hard copies remaining (legacy)	Mix of question types, mainly MCQs	To identify learner's level (E1 - L1) and point to DA level.	Free	No	No	No	Not full coverage of skills. Teachers mark this assessment and can learn from this.

3. SfL diagnostic assessment Available broken up on the Excellence Gateway (e.g. here) and in hard copy/ CD format (legacy)	Mix of question types + e.g. Free writing and miscue analysis. Paper based or electronic	Diagnose learners' strengths / areas for development	Free	Yes	Partly (if using electronic version and only to gather DA data)	No	Assessment can be broken down into chunks (does not have to be done all at once). Total assessment takes approx 2 hours)
4. IA Toolkit Once widely available, now only local electronic copies remaining (legacy)	Mix of approaches including: free writing/ free number tasks, observation	Diagnostically assess learners' strengths and areas for development	Free	No, but informs this	No	No, but possible to incorporate	Specialist required to mark assessments Able to integrate with teaching and learning.

5. Embedded assessment Copies exist within organisations, though some examples on the Excellence Gateway (e.g. here)	Broad variety of approaches, from contextualised MCQs, to highly authentic tasks.	Highly varied; including level checks for learners on adult courses to assessments designed around inducting new prisoners to their regime.	Free (provider developed and sometimes shared between providers)	Sometim es	Sometim es	Sometimes	These assessments can sometimes lack reliability but are highly valid, as they arise out of real need. Often serve more than one purpose. Can work very well for functional skills (can be based on solving problems).
6. Commercial tools (e.g. BKSB, Skills Guroo, For Skills)	Mix of question types, including MCQs, problem solving, free writing (dependent on tool).	Identify level (E1- L2), diagnose strengths and areas for development, create 'ILP targets', link learners to selfaccess materials, track learners' progress.	Yes, various.	Yes (set of auto- generate d 'targets')	Yes	No	No specialist input required for most aspects. Remote/ central tracking and self-access nature make this very popular, especially for use with work based learners.

7. Self assessment Copies exist within organisations	Range of approaches, including 'can do' card sorts.	Able to help learners identify their own development needs / strengths	Free	No but self-led and can translate into targets.	No	Yes (dependen t on the tool)	These approaches serve a dual purpose; to help learners identify what they are not sure about and, with some coaching, that they sometimes know more than they think.
8. Awarding organisation tools	Various	Identify level (E1- L2), diagnose strengths and areas for development	Free for AO centres	No, but informs this	No	No	Quality varies.

Alternative Assessment tools (International Examples)

Tool/approach	Assessment type	Purpose	Cost?	ILP?	Tracking?	Affective?	Notes
1. Catching Confidence tools (e.g. used in Canada)	'Catching Confidence' approaches - based on learners' goals wider social and personal confidence, linked to their maths and English abilities.	To unpick learners' personal and social skills in relation to maths and English development	Free	No, but informs this	No	Yes	This approach was developed in the UK by NIACE and has been adopted in countries where the end goal for learners is not always an assessment. See here for full suite of tools and reports.
2. Goal based assessment (e.g. used in Australia)	Can be done in a variety of ways but largely through discussion between the specialist teacher and the learner	'Laddering back' from learners' goals to identify the maths and English 'skills' they need to achieve them	Free	No, but informs this	No	Partly, in the discussions that the learner has with the specialist tutor, this is taken into consideration (e.g. tutors are advised in the guidance docs to 'acknowledge the stress' that learners may be feeling about assessment and learning.)	negotiation at the heart

3. Authentic task assessments (eg. used in The Netherlands)	This approach requires learners to undertake 'authentic' tasks (e.g. read a utility bill and answer questions about it)	To ground target setting in the ability to complete everyday and work-related tasks	Free	No, but informs this	No	No	In the Netherlands, the authentic tasks are 'levellised' and first require learners to undertake a multiple choice-type initial assessment (based on SfL IAs from England).
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Appendix B - a review of existing and legacy assessment methodologies

4. 'Mapping the Learner Journey' (used in Eire)	This approach is based on scaling (0 - 9) and is organised into a variety of 'domains'	The framework has 4 cornerstones: 1. Knowledge and skills 2. Fluency and independence 3. Depth of understanding and critical awareness 4. Range of application. This acknowledges that progress in literacy is about more than developing the technical knowledge and skills. It involves personal, social and emotional development.	Free	Yes	Yes	Yes, at its core	Mapping the Learning Journey allows learners and tutors to assess progress on a nine-point scale, considering two factors: 1. the 'level of difficulty' of an activity, or a task – what demands the activity places on a person 2. how well the learner carries out the activity – or the 'stage of mastery'; Taken together these give a nine-point scale on which to map progress. See full materials here.
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