CHAPTER 1

SETTING THE SCENE – HOW DO YOU CREATE CONFIDENT LEARNERS?

This chapter looks at ways of creating a culture for effective formative assessment. Topics covered include:

- Developing self-efficacy (belief in our ability to achieve)
- Knowing about the brain and learning (cognitive science shows the limitations of our working memory)
- A language of learning (knowing what learning consists of).

DEVELOPING SELF-EFFICACY

There are many barriers to self-efficacy, all of which stop children believing they can achieve their very best. These are (a) believing that the teacher has a low opinion of them and their ability; (b) being worried about making mistakes; (c) reward systems which compare children; and (d) being 'labelled' through being in an ability group.

It doesn't have to be like this! The following are some tried-and-tested strategies to give all children an equal chance at achievement:

- Love your children and be careful with what you praise and how you say it:

  o   Make sure you show all the children you teach that you have their best interests at heart. Avoid subtle body language or tone-of-voice clues to children that you maybe don't like them or rate them (sighing, showing impatience at individuals, comparing children, etc.) – once they believe you don't value them, they stop investing effort in learning and might even disconnect from it.

  o   Praise should be **task related** not **ego related** ('*You have worked hard on this and have two excellent similes*', not '*You're so clever! I knew you'd be good at similes.*') Ego-related praise reinforces that the child has little control over their learning and that the teacher's approval is paramount. It can lead to learned helplessness when a child is faced with failure, thinking that they are no longer clever.

'*Most praise is given to teacher perceived lower achievers, whereas most critical feedback is given to higher achievers.*'
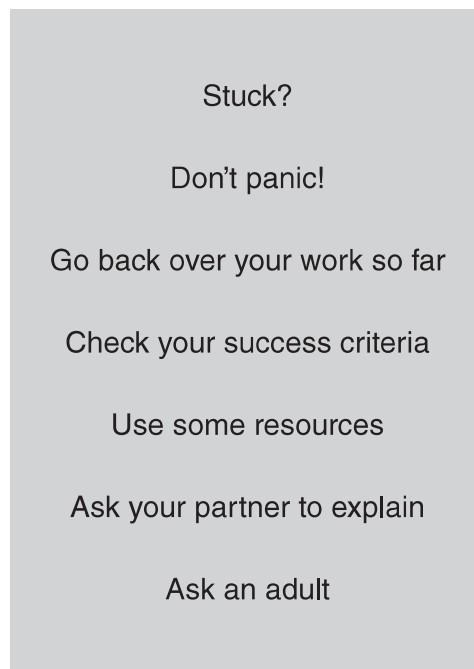Meyer et al., 1986: 293–308

o   Use the same tone of voice with all children when looking at their work, regardless of their achievement level. Give feedback about successes and improvement possibilities in their learning, regardless of their perceived 'ability level'.

o   Children are aware of excitable praise being given to lower achievers and more critical feedback given to higher achievers, and believe the difference relates to your high or low expectations of them – creating a self-fulfilling prophecy.

•   Normalise error!

'Errors invite opportunity. They should not be seen as embarrassments, signs of failure or something to be avoided. They are exciting, because they indicate a tension between what we now know and what we could know: they are signs of opportunities to learn and they are to be embraced.'
Hattie, 2012

o   When a child is stuck, don't sympathise – instead say 'That feeling of it being difficult is your brain growing' or 'You are about to learn something new!'

o   Tell children about the importance of mistakes because they mean you are on the brink of new learning. Tell them how scientists fail all the time until they get to the right solution, learning each time how to improve.

o   Show them the difference between a careless mistake, which they can usually self-correct, and a misconception, which needs more input from a teacher or another child.

o   Tell them that when you find something tricky, more neurons are connecting in your brain than when you find something easy! Finding something easy means you usually already know it.

o   When a child makes a mistake which is common to others in the class, place the work under the visualiser (or document camera) to project it and talk about the 'marvellous mistake', asking what has gone wrong and talking through the error and the solution. End by getting the class to say thank you to the child for helping us learn from our mistakes.

o   Display a poster of 'things to do when you are stuck' (see Figure 1.1).

Stuck?

Don't panic!

Go back over your work so far

Check your success criteria

Use some resources

Ask your partner to explain

Ask an adult

Figure 1.1   Poster of 'Things to do when you are stuck'

PUNISHED BY REWARDS!

Many successful countries do not give rewards for learning or behaviour, but see learning as the reward in itself. Lepper and Hodell (1989), among others, found that external rewards have a detrimental effect on intrinsic motivation. Children who don't get a reward are not motivated to work harder – not receiving one simply reinforces that whatever they did was not good enough. Rewards can never be fair, regardless of the criteria used, and make children either complacent or demoralised. This effect is invisible to teachers, because children rarely complain about the systems we put in place.

IDEAS FOR THE CLASSROOM

- **Ask children what they think about the various rewards in school and whether they think they are fair. Ask them how they feel when they don't get one.**

- **Explain that we will be celebrating everyone's achievements verbally, all the time – focusing on their successes and ways to improve (see 'On-the-move feedback' in Chapter 4).**

- **If you want to keep 'Child of the week' (common in primary schools), make sure every child in the class knows they will be chosen at some time to talk about what they are most proud of that week.**

- **Instead of rewarding individual children in assemblies, focus on skill or knowledge of the week, in which a whole class explains how they learnt a new skill or piece of knowledge, with first steps, success criteria, problems they faced and examples of their successes.**

THE TROUBLE WITH ABILITY GROUPING

Placing children in ability groups sets expectations about whether a child is seen by the school as a winner or a loser. The child, in turn, believes this to

be true and behaves according to those expectations, creating a self-fulfilling prophecy. Note that 88% of children placed in ability groups at the age of 4 are still in them by the time they leave school.

Children can be engaged in different levels of work, while sitting in a mixed-ability group, so it is not the learning which causes the problem, but the grouping, with its clear label.

It is illegal to group by ability in Finland, a consistently high-achieving country, before the age of 15. PISA studies (OECD, 2010) show that the more countries group by ability, the lower the student performance overall. (See Chapter 2 on the organisation of random learning partners, which creates instant mixed ability.)

> '500 studies on ability grouping resulted in minimal impact on achievement but profound negative impact on student efficacy.'
> Hattie, 2009

IDEAS FOR THE CLASSROOM

- **For mathematics teaching, use either a mastery scheme (e.g. Singapore Maths) or tasks which are 'low floor high ceiling' (e.g. how many different shapes can you draw which have an area of 24 square centimetres?), which extend all children.**

- **In secondary school, try mixing Years 7, 8 and 9, with all maths teachers planning together.**

- **We should be activating children as learning resources for each other to maximise their learning. If pairs change**

weekly or every few lessons, children get a chance to be both the explainer and the learner, according to the person they are randomly paired with each time. Often, children can explain things in a better way than teachers, especially if they are trained in how to be a good learning coach. Langford School in Hammersmith and Fulham developed such prompts for mathematics and English (see Figure 1.2).

Prompts for being a good learning coach in English	Prompts for being a good learning coach in mathematics
• Is there anything you feel you need help with? • What impact on the reader do you want to achieve? • Do you think you are achieving this? • How successful do you think you have you been against the success criteria? • How can you include this aspect of the success criteria? • You could use a simile/metaphor etc. here. Can we think of one? • Can you think of a better word instead of _____? • Could you think of any adverbs to put before any verbs in your writing? • Could you ask the reader a question in your writing?	• Have you followed the success criteria? • Can you demonstrate that this is the right answer? Explain how you know. • Would a whiteboard help you? • Could you draw a diagram? • What is the rule for e.g. rounding numbers? • How do you know this number is e.g. divisible by 2/prime/a factor of 32? • Let's talk through an example and go through the steps. • Ask me questions and interrupt me if you don't understand. • Now, can you do this example on your own? Talk me through it.

Figure 1.2   Useful prompts for being a good learning coach

Source: Langford School in Hammersmith and Fulham

KNOWING ABOUT THE BRAIN

We know that the more you are challenged, and the more you learn, the more neurons are connected, so you really can 'grow your intelligence'. Cognitive science has also illuminated facts about memory and how we learn best. The working memory (what we are thinking about and focusing on at any moment in time) is limited in its capacity to remember without props. Try transferring an 11-digit reference number from one place to another – we can only remember about 7 or 8 individual items at once! To give children any chance of remembering their learning, they need to be thinking about what we want them to learn, as we can only remember anything we have consciously thought about.

'Memory is the residue of thought.'
Willingham, 2009: 54

IDEAS FOR THE CLASSROOM

- **Show children YouTube clips of neurons connecting (e.g. Neurons and What They Do – An Animated Guide by cosmiccontinuum at www.youtube.com/watch?v=vyNkAuX29OU) – it looks like outer space!**

- **Explain that our brains have endless capacity for learning and memory, and for growing our intelligence, with the following conditions:**

  Practice   Effort   Time   Input

- **Make a PETI poster and ask children to use this language when they are reflecting on their learning or are stuck. It is much more empowering for a child to ask for more input than to ask for help, for instance.**

- **Display a bullseye diagram with three different coloured circle zones, labelling them from outside to inside: panic zone, learning zone and comfort zone. This will help to remind children that they should be in the challenge zone to be learning, unless they are practising something over and over and can move it to the comfort zone (e.g. times tables or formulae).**

- **Ease the cognitive load of children's working memories by:**

  o **encouraging them to take notes**

  o **providing copies of key facts, skills, and so on, for frequent reference, or displaying these on working walls**

  o **labelling diagrams rather than providing a key**

  o **modelling new skills in silence at the front, then asking a child to explain what you did (talking and modelling at the same time overwhelms working memory)**

  o **making sure the correct focus is on what you want students to think about (have the exploding volcano at the end of the lesson, not at the beginning!)**

  o **having frequent low-stakes quizzes and tests so that they are constantly retrieving things from their long-term memories and therefore making them easier to recall, by deepening neural pathways.**

A LANGUAGE OF LEARNING (METACOGNITION)

Children can take more control over their learning if they know what learning actually is and therefore how to learn. Once children and teachers know how learning breaks down, they have a common language with which to talk about learning.

The Education Endowment Fund (EEF, 2018) found that, on average, using metacognition added the equivalent of an extra eight months of schooling to children's performance.
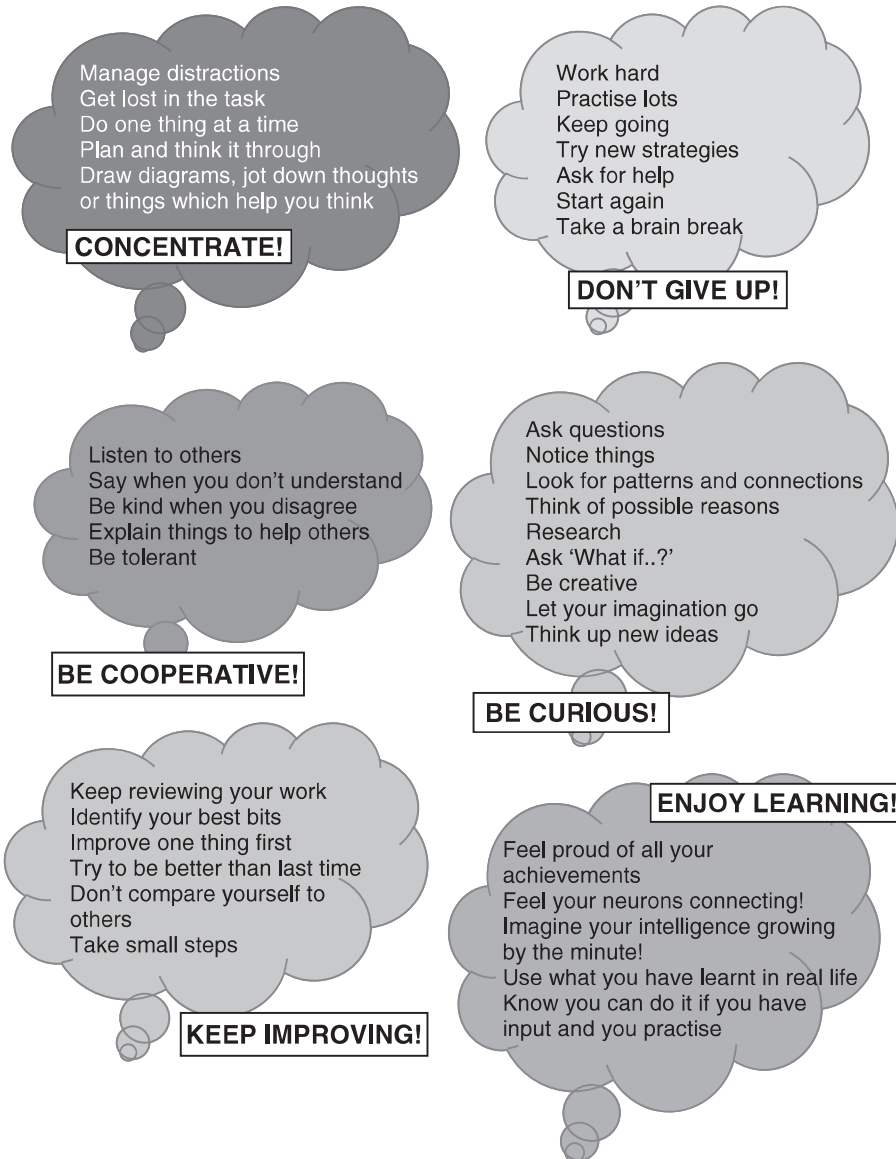
> 'Metacognition is self-evaluation, in which students are perceptive and honest observers and critics of their own performance.'
>
> Guy Claxton, 2018

IDEAS FOR THE CLASSROOM

- **Introduce the learning powers in Figure 1.3, derived from the research of Claxton, Costa, Quigley and Clarke, one at a time. Link them with a character that embodies the characteristics. In primary school, this could be animals (e.g. tortoise for resilience) or superheroes; in secondary school, children can identify famous people or film characters. Focus in on one of the elements of each power. Say, for instance, that in every lesson today (or this week in secondary) we'll be looking at how well you can manage distractions.**

- **Refer to the learning powers in real learning contexts. For instance, discuss:**

  o **not giving up during some tricky mathematics or being cooperative during a partner discussion**

  o **learning intentions as well as asking children which learning power (and which element of that) they think they most need for the lesson. Encourage children to reflect on how well they used these powers in the lesson**

o   **which things help children learn (movers) and which
get in the way (blockers). Students' responses will help
you see how to help them learn best and will give a
clear message that they are being listened to.**

Manage distractions
Get lost in the task
Do one thing at a time
Plan and think it through
Draw diagrams, jot down thoughts
or things which help you think
CONCENTRATE!

Work hard
Practise lots
Keep going
Try new strategies
Ask for help
Start again
Take a brain break
DON'T GIVE UP!

Listen to others
Say when you don't understand
Be kind when you disagree
Explain things to help others
Be tolerant
BE COOPERATIVE!

Ask questions
Notice things
Look for patterns and connections
Think of possible reasons
Research
Ask 'What if..?'
Be creative
Let your imagination go
Think up new ideas
BE CURIOUS!

Keep reviewing your work
Identify your best bits
Improve one thing first
Try to be better than last time
Don't compare yourself to
others
Take small steps
KEEP IMPROVING!

ENJOY LEARNING!
Feel proud of all your
achievements
Feel your neurons connecting!
Imagine your intelligence growing
by the minute!
Use what you have learnt in real life
Know you can do it if you have
input and you practise

Figure 1.3   Learning powers, derived from the research of Claxton
(2002), Costa (2008), Quigley and Clarke (2010)

Table 1.1 shows the outcomes of a movers and blockers brainstorm with children at one school. Try it with your class – it can lead to a contract being drawn up between the class and the teacher.

Table 1.1   'Movers and blockers' brainstorming with children

MOVERS (help us learn)	BLOCKERS (stop us learning)
Having a learning partner	Too much noise in the classroom
Being able to see the whiteboard	Disruptive children
Liking the teacher	People talking to you when you're trying to concentrate
Being given enough time	
Getting advice about how to improve	Not enough time
	Losing stuff
Good behaviour	Not understanding the work
Having the right stuff (pencils etc.)	Feeling stupid
Understanding what to do	

Source: Nuthatch Primary School, Appledore

NOTE IT DOWN

Decide which of the elements outlined in this chapter are working well in your class/school, which need some minor modification and which need more careful investigation and thought. Remember that taking things slowly and doing them well will be more effective than trying to introduce too much at once.

Element of formative assessment	Working well	Need to modify	Need to start (add by when)	Need to investigate/ think about
Making sure children know I have their best interests at heart				
Only giving task-related praise or feedback rather than ego related				
Giving all children success and improvement feedback in the same tone of voice				
Celebrating error as an opportunity to learn				
Teaching about the capacity of the brain				
Having a 'What to do when you're stuck' poster displayed				

(Continued)

Element of formative assessment	Working well	Need to modify	Need to start (add by when)	Need to investigate/ think about
Eliminating comparative reward systems or giving all children the reward				
Having mixed-ability seating				
Focusing on practice, effort, time and input as the conditions and language for learning				
Using the learning zones bullseye poster				
Adapting teaching to ease the cognitive load				
Asking children what helps them learn and what stops them learning				
Introducing the learning powers/ including them in lessons				
Brainstorming movers and blockers				