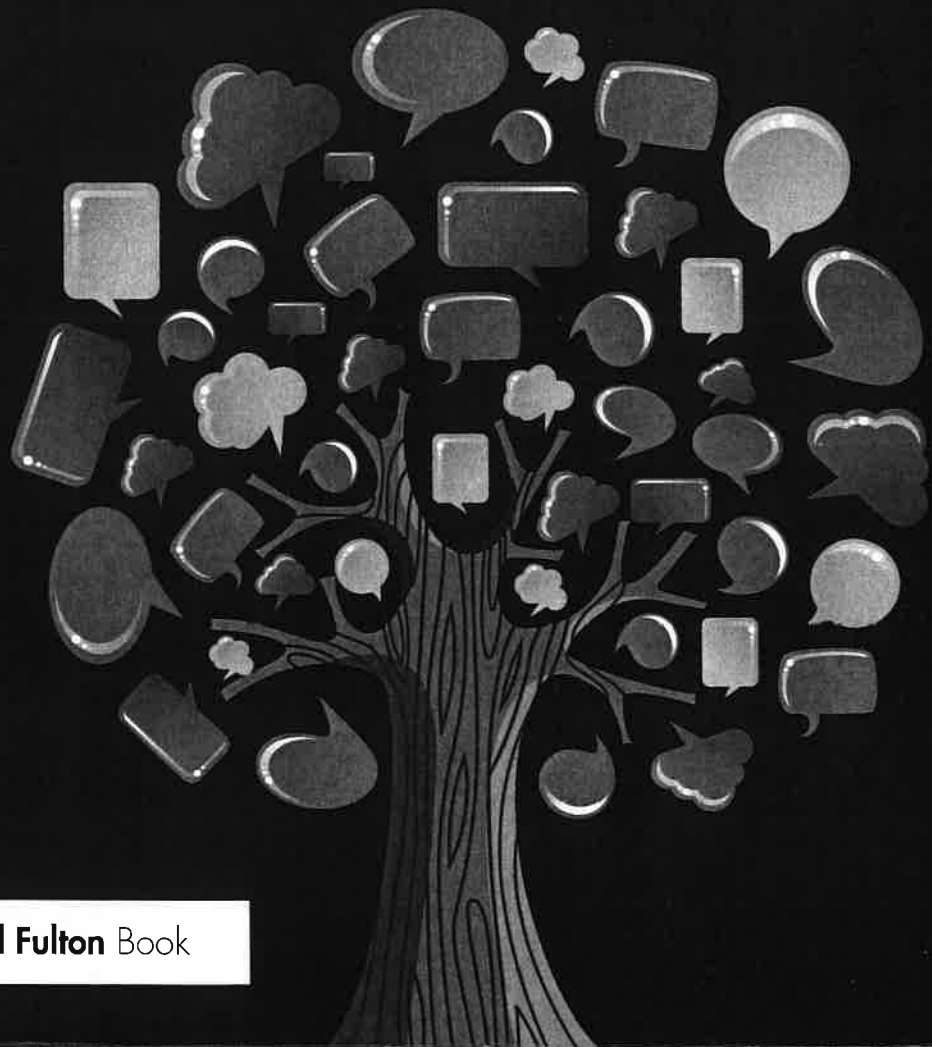


James Nottingham

Encouraging Learning

How you can help children learn

With a foreword by John Hattie, author of *Visible Learning*



A **David Fulton** Book

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CHAPTER

1

Learning *how* to learn

What's the point of education?

What's the point of education? I've been asked this a few times by pupils, a lot of times by adults who hated school and by more taxi drivers than I care to remember. My answer is always the same: to help children learn *how* to learn.

Of course this isn't the only goal. Children also need to become numerate, literate, thoughtful and kind. They need to understand how to act morally, considerately and socially. And they should know how to be safe.

Yet the almost daily debate in media around the world is about what *knowledge* ought to be taught in school. Recent debates have included whether creationism should be taught alongside evolution theory or whether there's a point to teaching *PowerPoint* when it'll probably be outmoded within a few years. There have been suggestions that if Latin were still on the curriculum then we'd all be language experts and that if the army ran our schools there'd be less crime. I even read recently that some dog trainers are insisting all children be taught at school how to recognise whether a dog is about to bite or beg! As important a lesson as this might be, I wonder where it would fit into the school timetable. Perhaps between hieroglyphics and henna tattooing on a Friday afternoon, at the end of the 60-hour school week needed to accommodate the demands of every special interest group?

There is merit to the debates about which subjects children should study. After all, pupils have to study something so it is right and proper that we consider which subjects are the most important. Yet think of all the information you learned at school. How much of it do you use today? Indeed, how much of it has been superseded by changes in society? Is there any point teaching today's children to map read, speak French, type on a keyboard, maintain a petrol-driven car (or even to drive)? If so, are these worthy enough to keep Mandarin Chinese, computer programming, or even dog whispering off the 25-hour weekly school timetable?

As a parent, I would like my children to learn French at school because I think learning other languages opens doors socially, emotionally and cognitively. However, if they don't manage to – well, *c'est la vie*.

On the other hand, I'm not prepared to take such a relaxed view about learning *how* to learn. If my children leave school without a superb repertoire of learning capabilities, a willingness to inquire and innovate and the wisdom to make judicious decisions (*as well as* lots of knowledge), I would feel that I, and their schooling, had let them down.

Yet how many children do leave school discouraged and ill-equipped for the intellectual and emotional challenges of life? How many leave school with good grades achieved through memorising facts, who then go on to struggle at university or work where the emphasis is on independent thinking not regurgitation?

Before we all rush to drag our kids out of school, the good news is that learning strategies *can* be taught, attitudes *can* be encouraged, motivation *can* be strengthened and many schools are succeeding admirably in achieving these ambitions.

The key is to recognise the value and role that attitudes, skills and knowledge play in the learning process and then to ensure that children's education involves a development of all three.

Here is where to start: A.S.K.

A.S.K

A.S.K stands for attitudes, skills and knowledge, which are made up of these key ingredients:

- **Attitudes** – positive attitudes towards learning, including curiosity and persistence.
- **Skills** – abilities to carry out those actions necessary for gaining understanding and achieving excellent performance in any given context.
- **Knowledge** – familiarity with information, concepts, theories and practices in a given field.



FIGURE 1.1 Developing attitudes, skills and knowledge

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As a teacher in both primary and secondary schools, I used to plan lessons, set personalised goals for each pupil, and review learning with the help of the A.S.K model. I'd draw this as a triangle (below) to show that each lesson would emphasise two of the three dimensions of learning.

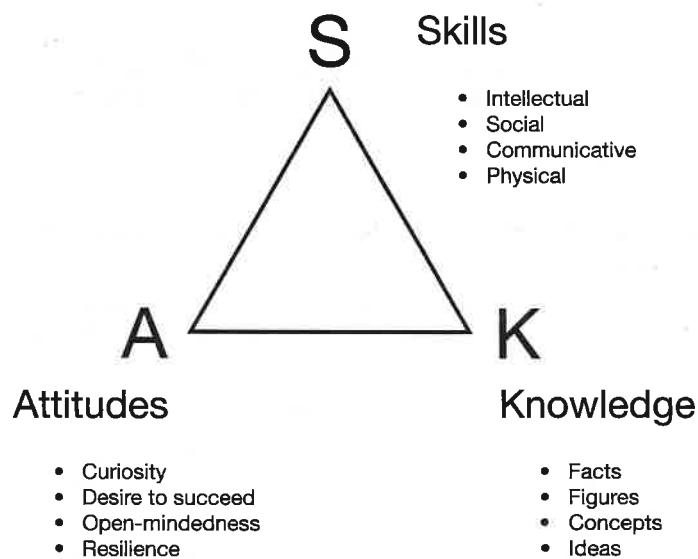


FIGURE 1.2 The A.S.K model triangle

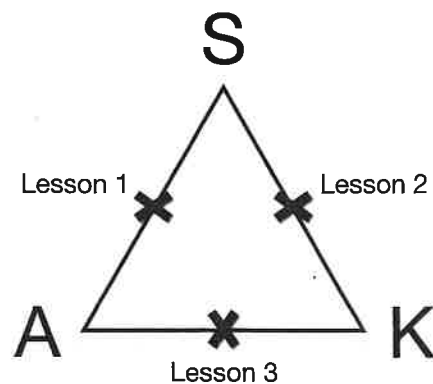


FIGURE 1.3 The A.S.K model triangle

For example, when we began a topic about the Vikings (a common theme in UK primary schools), the first three lessons would be along the lines of:

Lesson 1: Exercise our curiosity (attitude of curiosity) to create as many relevant questions (skill of asking relevant questions) about the Vikings.

Lesson 2: Decide which of our questions about Vikings has the most relevance to our topic (skill of prioritising by value) and which will help us to know most about lifestyles (knowledge about the Vikings).

Lesson 3: Gain knowledge of Vikings (knowledge about Viking history) by persisting (attitude of persistence) with answering the questions we struggled to answer last time.

Over the next few pages, I have listed the skills and attitudes displayed by the best learners I have encountered. You can discuss them with children in a number of ways.

For example:

- (a) Talk about the attitudes that have helped you succeed and those that have led to problems.
- (b) When watching a sporting event together (even if that's *Strictly*), draw attention to the competitors' desire to win, to take risks, and to focus on the outcome. You can also talk together about the attitudes the performers must have drawn upon to attain their high degree of proficiency.
- (c) Identify the actions people can take to demonstrate particular attitudes – for example, having one more try when you feel like giving up would demonstrate determination.
- (d) Talk about the progress your children have made in developing their skills – for example, how much they have improved in bike riding, writing, playing the guitar and so on.

Poor is the pupil who does not surpass his master

(Leonardo da Vinci, 1452–1519)

If we don't become better people from the education we gain, then what real purpose does education serve? If it is only to "earn" a living, then are we really "living"?

(Anon)

Attitudes for learning

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Lev Vygotsky, one of the pioneers of educational psychology, wrote at length about cultural learning. He said children learn from those around them: what to laugh at, what to be afraid of, what to have a go at, what to avoid, and so on. He emphasised that children pick up mental, as well as physical, habits from their elders and warned us that the way we react to things is arguably more influential on young minds than the knowledge we share with children. In other words, children adopt many of our attitudes and values through dialogue with us. That's one heck of a responsibility for those of us with children in our lives!

Of course, there is no hierarchy or exhaustive list of attitudes, at least not that I'm aware of, but here are some that are displayed by the best learners I've come across.

Outstanding learners are:

- curious;
- focussed on what is relevant;
- full of wonder;
- keen to learn from mistakes;
- open to new experiences;
- persistent;
- resilient;
- risk takers;
- self-regulating;
- willing to ask for support and coaching.

What (children) should learn first is not the subjects ordinarily taught, however important they may be; they should be given lessons of will, of attention, of discipline; before exercises in grammar, they need to be exercised in mental orthopaedics; in a word they must learn how to learn.

(Alfred Binet, 1909, founder of IQ testing)²

An attitude of self-control

In 1972, Stanford University psychologist Walter Mischel conducted an experiment to find out when the trait of deferred gratification – the ability to wait for something you want – develops in children. The experiment has been repeated many times since, including in the BBC series *Child of Our Time*.

The original experiment involved more than 600 children between the ages of four and six. Sitting in an empty room, the children were offered a treat of their choice – a cookie, a pretzel or a marshmallow. They were each told they could eat their treat but if they could wait for 15 minutes without eating it then they would get a second one.

I encourage you to watch some of the video clips of similar experiments available online. In them you'll see some children refusing to look at their marshmallow, others peeking at it from behind their hands, one boy licking the plate but not the marshmallow and one even stroking it as if it were a pet!

In all, approximately one-third of the children were able to delay their gratification long enough to be rewarded with a second marshmallow. Of course, the older the child, the more likely they were to succeed but what Mischel also found from follow-up studies was:

The children who could not wait were more likely to have behavioural problems both at home and school; they had lower exam scores; more often



FIGURE 1.4 Teaching self-control

struggled to deal with stressful situations or to pay attention; and found it more difficult to maintain friendships.

The children who were able to wait also craved the treat but were able to distract themselves by covering their eyes, playing hide and seek or singing songs. Their desire wasn't dispelled; it was merely forgotten.³

Forty years after the first experiment, the researchers tracked down sixty of the original participants and invited them to take part in a new study. They were shown a range of flash cards with faces displaying a range of expressions – happy, neutral or fearful – and asked to press a button every time they saw a fearful face.

This may seem an easy task but, as B. J. Casey, the neuropsychologist who carried out the tests along with Mischel, explains: 'A happy face is a social cue that is hard to resist' (ibid.). The results showed that the participants who had struggled to defer gratification when they were younger also struggled to resist pressing the button when they saw a happy face.

The experiment concluded with many of the participants repeating the test while lying in a brain scanner. The participants with better self-control showed more activity in the part of the brain associated with risk aversion, whereas those with poorer self-control showed increased activity in the brain region associated with reward and addiction.

The lesson of this study is that we should help children develop the capacity to wait or defer gratification. Telling them they shouldn't *want* something doesn't help; we can help them instead by teaching tactics to divert their attention, to focus on other things, to look forward, to plan and so on. Incidentally, this is partly why so many diets fail – we focus on the foods we shouldn't eat rather than on finding healthier foods or activities to distract us.

Teaching the attitude of self-control

Self-control develops with maturity and practice. Temperament also plays a role. Impetuous children may need more guidance, particularly in exciting or distracting situations; reflective children may appear more self-controlled when in fact they're just more reserved. Either way, explaining the reasons behind particular rules, teaching children how to focus and appealing to their sense of fairness should help develop their attitude. Modelling self-control always helps too!

For example:

- (a) Saying no to the sweets they want but indulging in the treats you fancy will not help. Instead, draw attention to the things you'd like but are delaying acquiring and explain how you feel about this.
- (b) Have a piggy bank or some visual means to demonstrate saving for things you want.
- (c) Play games that reward self-control such as *Simon Says*, *Musical Statues* or *Wii Fitness*.



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FIGURE 1.5 Cartoon of helicopter parents

Attitudes of parents

When I work in Australia, I often hear mention of 'helicopter parents' – the parents who 'hover' over their children, making sure they're safe, lending an overbearing hand, helping them to solve their quarrels, and so on.

In Scandinavia, they call them 'curling parents' – sweeping in front of their child, clearing the way just as, in the winter sport, a curler sweeps the ice in front of the curling stone.

Of course, I understand the need for our children to be safe – I've already got the shotgun and vicious dog on order to ward off suitors the day my daughter turns thirteen!

However, it baffles me how keen many of us are to erase problems from our children's lives: when our little darlings fall over, we rush to them, thus inferring that a tumble is something to wail about; when they get stuck on their homework, we do it for them; if they feel like giving up their hobby when the going gets tough, we seem quick to allow them to quit rather than using the opportunity to help them build a 'stick-to-it' attitude.

I'm not talking about being cold-hearted or running a military boot camp. I'm talking about helping children learn from all their experiences, bad as well as good. It is in times of struggle that we learn to be resilient, determined and open to new ideas. The philosopher, Fredrik Nietzsche, wrote: 'That which does not kill us makes us stronger.'⁴ This may be too forceful in the context of children's learning. Perhaps the following quotes are more suitable:

Problems are to the mind what exercise is to the muscles: they toughen and make strong.

(Norman Vincent Peale, 1898–1993)⁵

The gem cannot be polished without friction, nor a person perfected without challenges.

(Chinese proverb)

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Skills for learning

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I recommend that as well as helping children develop learning attitudes, you should think about the skills children need for learning. Here's a list to begin with. It is not exhaustive but it will give you a reference point and underpins some of the activities later in the book.

Intellectual skills

Including the ability to:

- identify, describe and alter connections between ideas;
- understand the relevance of an idea;

- draw conclusions;
- compare and contrast;
- ask relevant questions;
- generate theories.

There are many suggestions for ways to develop these intellectual skills on pp. 61–71.

Social skills

Including the ability to:

- build rapport;
- respect other people's viewpoints;
- respond appropriately to others;
- work individually and in a team;
- encourage others;
- influence others.

Physical skills

Including the ability to:

- write, draw and paint;
- manipulate objects (e.g. building a model with *Lego*);
- catch and throw objects;
- dance, act, sing;
- balance and ride on a bike, horse, scooter;
- climb, sit still, play sport.

Communication skills

Including the ability to:

- understand and be understood;
- listen and respond appropriately to others;
- talk persuasively and respectfully;
- request things politely;
- pay full attention to a speaker;
- understand body language and tone of voice.

Of course, many of these skills overlap. Writing, painting and drawing are intellectual as well as physical skills. I've suggested some books and links on p. 14 that give more ideas for developing learning skills and attitudes with children. However, the most important thing is that you are thinking about and looking for ways to enhance children's attitudes and skills as well as their knowledge. By getting the balance right, you will give children a great head start.

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Knowledge for learning

National Curriculum documents identify the subject knowledge that a country wishes its young people to learn. Problems arise, however, if topics are then taught 'because they are in the curriculum' rather than because they are of interest to pupils.

One way to heighten the desire of pupils to learn particular bodies of knowledge is to use preview strategies.

As a teacher I would devote a small part of the week to previewing the topics we would cover in the following week. So, for example, I would say that we would begin a new topic on tourism and then ask pupils (a) what they *wanted* to know about tourism and (b) what they thought we *should* know about tourism by the end of the unit. We would then list the questions on the board, group them into units of work (or lesson plans) and, if there was time, begin some initial research.

There are many benefits to previewing, including:

- 1 Motivating children, who tend to be more engaged when they are involved in planning and making decisions about their own learning.
- 2 Giving children the opportunity to prepare themselves for lessons. Too frequently, children do not know what's coming up until the moment the lesson begins and their teacher outlines the learning objectives. Previewing allows children thinking time, opportunities to do some preparatory research and the possibility of approaching lessons in a prepared state of mind.
- 3 Helping parents to support their child's learning. I've lost count of the number of parents and grandparents who have thanked me as a teacher for previewing topics with their children. They say it has stimulated interesting discussions at home, led to more eagerness to visit the local library or online resource and provoked ideas for activities.

Motivation for learning

According to Jacqueline Eccles' *expectancy-value* theory,⁶ the effort someone puts into a task is equal to how much they *want* to achieve it multiplied by how much they *expect* to achieve it.

Effort = value × expectancy

'Multiplied' is the key – since if either figure is zero (zero desire/value or zero expectancy) then the effort will also be zero, regardless of the other factor (since anything multiplied by zero is zero).

It is far better to focus on learning goals. This identifies the next step for an individual, regardless of where their peers are – for example, a two-year-old learning a handful of new words each week; a seven-year-old learning a new times table every other month; or ensuring that achieving 100 per cent in a test is a challenge for all students, not just some.

Top tips for learning *how* to learn

(a) Learning is a process, not an outcome

When teaching children something, take the opportunity to help them learn *how* to learn. For example:

If you are teaching them to ride a bike, talk before and after about the attitudes (such as perseverance, concentration and having a go) needed for all types of learning, including learning to ride a bike.

If you're helping them complete their homework, talk about the study or research skills that they might draw upon or improve while completing the assignment.

(b) Motivation, motivation, motivation

$$\text{Effort} = \text{value} \times \text{expectancy}$$

As explored on the previous page, how much effort someone puts into a task is equal to how much they *want* to achieve it multiplied by how much they *expect* to achieve it.

It is important also to consider the benchmark we set for expectancy: are we aiming to be nothing short of the best, in which case our expectancy 'score' might be quite low; or are we aiming to beat our *personal* best, in which case our expectancy might be quite high.

(c) The attitude of learning

When observing or talking about someone's success, point out the role that attitudes have played. Of course, ability may well have played its part, but attitudes are likely to be a key influence.

To believe that they can succeed, children need to feel they can influence outcomes. Realising that the attitude they adopt may have an impact on the likelihood of success helps them to acquire an understanding of their own power to determine the outcome.

(d) Model it

Children mimic those around them. If you give the impression of knowing everything, then that is what the children around you will perceive is important. If, however, you show that you enjoy learning, are keen to learn from your mistakes and are willing to try new things, then the children around you are very likely to pick up on this and value learning too.

(e) Learning goals: 1/Performance targets: 0

Too often we set goals according to what is typical for an age group – for example, expecting all two-year-olds to be able to talk; all seven-year-olds to know their two, five and ten times tables; or all top-set maths students to achieve 100 per cent. These are *performance* goals.

It is far better to focus on where the individual child needs to go next, regardless of where their peers are. These are *learning* goals regardless of where their peers are – for example, helping all two-year-olds learn a handful of new words every week; seven-year-olds to learn a new times table every other month; or ensuring that achieving 100 per cent is a stretch for all students.

Further evidence

A common criticism of teaching children attitudes and skills, as well as knowledge, goes along the lines of: 'Why are you wasting time on personal and social skills lessons when children today don't even know their times tables?'

This creates an unnecessary polarisation. It is not a case of *either* teach skills and attitudes *or* knowledge.

Attitudes, skills and knowledge go hand in hand. Children who are unwilling (or unable) to persist with their studies or be open to help from others are going to struggle to learn anything, including their times tables.

Another criticism, this time levelled by teachers and school governors, is that because so much knowledge is needed to pass national tests, we shouldn't waste time developing skills and attitudes. The argument goes: 'If their parents haven't brought them up properly then what can or should we do about it? We're here to teach subjects, not attitudes!'

Though there may be some truth to this, it is also the case (as I will show in Chapter 4) that:

- to pass exams with the best grades, pupils need to have highly developed skills – particularly thinking skills;
- taking time to develop the right attitudes will mean less time wasted in dealing with low-level disruption and pupils unwilling to engage in activities.

Further reading and viewing

For further information about attitudes, skills and knowledge, I recommend:

Books

Building Learning Power by Guy Claxton, with his focus on the 4 'R's of 'Resilience, Resourcefulness, Reflectiveness and Reciprocity' (ISBN: 978-1901219432)

Challenging Learning by James Nottingham, a more comprehensive version of this book. (ISBN: 978-0956482808)

Teach Your Child to Think by Edward de Bono (ISBN: 014-126805)

People Rules for Rocket Scientists by Edwards *et al.* (ISBN: 978-1851686032)

What's the Point of School by Guy Claxton (ISBN: 064-6338005)

Videos

Child of Our Time website – excellent series from the BBC

Ted.com – particularly clips featuring Sir Ken Robinson or Dan Pink

YouTube – *Shift Happens* by Karl Fisch