

Making Links



The New Challenge

Ofsted now recognises the need for schools to:

- provide their own compelling data of a trajectory of improvement
- successfully promote and support children's 'self confidence, self awareness and understanding how to be a successful learner'.

This together with the current interest in character led education all point to the opportunity for schools to cultivate the habits and attitudes that underpin success and thereby build students' learning characters.

About Learning Habits and Character

Learning habits are the routine ways in which we think and act when faced with life's experiences and challenges. They are second nature to us. Some habits make us very productive and effective; others cause us to learn in constrained and limited ways. Habits are indeed part of our character.

We acquire habits through use: ways of behaving become habituated. If we have a well formed **Making Links** habit, we will have a tendency to use it in all learning experiences. The more we experience the value of a particular habit, the more we will tend to use it throughout our lives.

Like it or not, teachers do help to form a learning character. The ways in which young people perform and behave are influenced by the way teachers orchestrate and guide learning. Deliberately fostering an effective learning character in students is a renewed common purpose for education, shared between students and teachers, parents and society more generally.

A well formed **Making Links** habit involves being **ready, willing, and able to**:

Find pleasure and satisfaction in seeing how things appear to fit together, looking for similarities, differences, the unusual and absurd.

Connect new ideas to what they know and feel already. Look for analogies that will give them a handle on something new.

Seek novel and inventive ways of connecting apparently unconnected ideas, events or techniques.

Match and categorise ideas, techniques and concepts to ones that are already understood, seeking underlying similarities.

Extrapolate from that which is already understood to yield insight into new learning.

Link ideas across different academic disciplines and in varying contexts

“**Moment by moment throughout our lifetime, our brains hum with the work of making meaning: weaving together many thousands of threads of information into all manner of thoughts, feelings, memories and ideas.**”
– Daniel Tammet.

Young people with the habit are likely to:

Enjoy seeing how things might fit together

Look for patterns and sequences

Use analogies, similes and metaphors

Classify objects according to similarities and differences

Sort items or ideas in order to discover meaning

Link cause and effect

See the 'big picture'

Notice detail

Seek coherence

Be open minded

Forming the habit

activities to develop... Making Links

Quick Wins

Similarity and Difference[®]

- » Find two images with both similarities and differences. Invite students to work in pairs to identify at least 5 of each, and then work as a four to decide the 3 most important similarities and differences. Timings could be around 1 minute for the pair work, and 2 minutes for the work in fours.
- » This will also support the skills of noticing, collaborating, and distilling.

Odd One Out[®]

- » Identify four 'things' related to your own subject area – this could be 4 images, 4 words, 4 techniques, or anything else that links to your own subject and/or what students are currently learning about. Invite them to identify the odd one out, and to explain why they think this.
- » When you can, construct lists where it is possible to justify that each of the items are, in fact, the odd one out.

Mind Maps[®]

- » Use mind maps to encourage students to link and explain how information and ideas seem to be associated.
- » Use mind mapping at the beginning, middle and end of a unit of study to show how links and understanding change as knowledge grows.
- » Use at the end of a module of learning as a synthesising tool.
- » Use a 'thought shower mind map' at the outset of a lesson to connect with prior learning and activate link making.

Visible Thinking Routine

Connect, Extend, Challenge

This routine helps students make connections between new ideas and prior knowledge. It also encourages them to take stock of ongoing questions, puzzles and difficulties as they reflect on what they are learning.

- Connect:** How are the ideas and information presented connected to what you already know?
- Extend:** What new ideas did you get that extended or pushed your thinking in new directions?
- Challenge:** What is still challenging you or confusing for you to get your mind round? What questions, wondering or puzzles do you now have?

The natural place to use this routine is after students have learned something new. For example: after exploring a work of art, a theory, a method, a piece of evidence. Try it as a reflection during a lesson, after a longer project, or when completing a unit of study.

The routine works just as well with the whole class, small groups or individually.

Match Them Up[®]

The 'Thinking Through' series edited by David Leat has individual books for Geography, History, RE, MFL, English, Maths, Science and PSHE which all contain subject specific examples.

The underlying principle is to offer students a set of cards that need to be matched up or linked in some way. It might be:

- a set of pairs of cards like 'It has been raining' and 'The river is flowing fast' where the student is challenged to decide whether there **Must** be a connection between the two events, **Could be** a connection, or **No possible** connection
- a problem to select a substance (metal, clay, wax, salt, ice, ...) and a change (freezes, dissolves, melts, burns, ...) and decide if the change is **Reversible** or **Irreversible**
- a set of cards that students are required to match into pairs - it could be 5 graphs and 5 equations; 5 characters and 5 attitudes; 5 words and 5 definitions etc.

Mystery Games

Divide a set of clue cards equally between a group of students. The challenge is to solve the mystery or work out the answer by sharing the information orally.

Emotional Climate to build a link-forming learning character.

Celebrate link-making

- » Patterns are sought, links are noticed and explained
- » Analogies and metaphors are in evidence

Plenaries and review points attend to transfer

- » Students are encouraged to think how new learning might be used in other subjects or areas of their lives.

Subject overlap is well understood

- » Teachers and students understand and value the use of transferable skills
- » The curriculum is mapped to identify such overlap
- » Cross-curricular opportunities are planned into the curriculum

Teachers as character builders

Learning habits form part of our character and develop through use and practice (deliberate or otherwise!). But desirable habits will survive and flourish better if students are aware of them, realise their value, and strive to improve them.

Cultivating habits involves:

- Providing rich and varied **occasions** for **exercising** learning habits
- **Infusing** learning habits into lessons to enhance content understanding
- Recognising and **celebrating** the use and **growth** of learning habits
- **Enabling** students to identify how and when to use learning habits
- Expecting students to take ownership of and **responsibility** for their learning habits
- **Exploring** the development of learning habits with students.

Teachers are influential character builders and need to be mindful of how they help students form, replace, re-form and strengthen their learning habits.

Are your teaching habits helping students' learning habits? Are you building learning characters who will succeed in life?

Take it steady! Think about how and when you might:

Stop/avoid:

- Telling students how things are linked together
- Attending to detail at the expense of the bigger picture
- Sacrificing depth in the pursuit of breadth or, worse, coverage!

Experiment with:

- Blue-sky thinking – focus initially on the big picture, and fill the detail in later
- Encouraging the use of metaphors and analogies

Start/do more of:

- Encouraging students to talk about and explain the connections they notice
- Providing opportunities to sense underlying patterns
- Using a range of similarity/difference activities
- Using mindmaps to encourage students to identify and show how ideas/features interrelate

Start slowly:

- Inviting students to speculate on the intended learning outcomes of lessons
- Exploring how techniques and ideas in one subject can be used elsewhere in the curriculum
- Modelling and commenting on the ways in which people link things together to make sense of something

Balance big picture and fine detail

- » Understanding comes from either
 - first understanding the big picture, or
 - first understanding the fine detail
- » Both styles are catered for in lessons

Linking to life

- » Model or explain how current learning links to everyday life.

Talk to nudge Making Links

Teacher talk - as a learning coach

(To ensure students do the thinking for themselves.)

How could it fit ?

What does...tell you about...?

Can you see any connections?

Can you detect a pattern here?

What do you know already that might help?

What does this remind you of?

Can you see a link between what we did in... and what you do...?

How might knowing... help you to do...?

Ask yourself 'What is this like that I know about already?'

Does the analogy... help us to get a handle on this?

Now that you know... has it changed how you think about...?

Student self-talk

(As the skill becomes a habit, and as the habit shapes part of the learning character, look out for students who say (or think) the following)

How does it fit with what I know already?

This is like...

What do these things have in common?

How is this different from...?

Are there any patterns?

'x' is like 'y' because...

That reminds me of...

Where have I met something like this before?

Is this a part of that?

Strengthening the habit

Putting it all together. How teacher and student action and talk build learning behaviours.

Predominant teacher behaviour	Teacher / student action	Teacher / student talk	Learning behaviour growth
Encouraging self-coaching	Students progress to the highest levels through repeated practice and modelling, in order to deepen the habit in themselves, and to help and support others to acquire and develop similar skills and habits.	Students say/think: Is there a relationship ? How does it fit ?; This is like . . . ; What do these things have in common ?; How are they different ?; Are there any patterns ?; 'X' is like 'Y' because . . . ; That reminds me of . . .	Make intuitive links between the known and the unknown; create analogies to convey understanding; seek opportunities to transfer new learning into other settings.
Commentating	Students devise opportunities for themselves to: collect and organise information; make links between pieces of information and identify cause and effect; seek and identify patterns; evaluate evidence and explain conclusions; create analogies, metaphors and similes; re-evaluate their existing understanding.	Students are supported and nudged by teacher talk about the value of making links. They use language like: How could this fit ?; What does X tell you about Y ? Can you see any pattern or connections? What do you know already that could help? What does this remind you of ? How might knowing X help you to do Y?	Use analogies to explain or make sense of abstract ideas; make links to understand complex webs and patterns; use new learning to re-evaluate prior learning.
Coaching	Teachers provide opportunities for students to: describe how events / ideas / techniques are inter-related. Students use analogies and metaphors; sort, classify and categorise things; link cause and effect; seek coherence; 'see' the big picture	Teachers use language like: how does this fit with what you already know ?; how might you use this in another subject ? How might you use this in your life outside of school ? What is this like ? How could we sort these things ? Why do you think that happened ?	Connect new learning to prior learning; make links in order to seek deeper meaning; make links between different subjects / disciplines
Supporting	Teachers provide opportunities for students to: use mind maps; experience analogies, metaphors and similes; look for connections; use venn diagrams; do compare and contrast activities; explain why and how they are making links; look for patterns	Teachers use language like: What does X tell you about Y ? Can you see any connections? Can you see a pattern here? What does this remind you of? Have you ever done anything like this before? Can you think of something you already know that would help you with this?	Look for similarities and differences; notice patterns; use analogies
Directing	Teachers provide opportunities for students to: be attentive to detail; undertake pattern building activities, re-building information that has been fragmented; do jigsaws; look for similarities and differences; experience odd one out type activities; classify or sort objects; think back to a time when they did something similar.	Teachers use language like: What do you notice ? Can you spot a pattern ? Which is the odd one out ? When did you last do something like this ? How is ... like ... ? How is it different ?	Notice the main details; link observations to what they already know.

How the role of the teacher changes as learning behaviours grow and firm up.

How action changes to promote further progression

How talk changes to nurture progression

A simple map of the development of 'making links'

Making Links

These At-A-Glance cards are based on the practical framework of learning capacities and habits known as Building Learning Power. The framework provides a clear picture of what it takes to be a good learner. The purpose of the approach is to grow students' Learning Character and Habits. In so doing Building Learning Power develops the appetite and ability to learn in different ways, and shifts the responsibility for learning to learn from teacher to student.

Find out more: www.buildinglearningpower.com

