

# Supporting students to develop effective study skills



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School resources

There are a number of steps that teachers can take to help students develop skills and dispositions that support their work at school as well as their study skills when working independently. The skills that are important to effective learning involve both **non-cognitive skills and attributes** including personal traits, attitudes, and habits of thought and behaviour, and **cognitive skills** such as critical thinking and synthesising and applying knowledge. This guide covers the importance of forming effective habits, using effective, evidence-based learning strategies, and maintaining motivation when studying.

## Developing effective organisational and work habits

Few students are likely to be in good independent study habits if they have never been supported to form them. Helping students develop sound habits will serve them well now and in the future. There are a number of ways that teachers can encourage and support students to develop effective habits and strategies for studying independently when learning from home or preparing for exams and assessments.

The first step in helping students build effective study habits is providing clear, simple guidance about what they should prioritise. Teachers can start by encouraging students to take a few simple steps:

### Getting into a good routine

Students are much more likely to do something if they combine their goal ('I'll revise my trigonometry problems') with a plan ('at 10am tomorrow'). It helps to specify a time, particularly if that time comes after an existing habit: if students plan to start work after breakfast, they have **an unambiguous cue to begin**. It might also be worth helping students identify the times at which they are freshest and best able to complete specific tasks. Most people's energy and attentiveness peaks in the morning, dips during the day, and recovers a little in the later afternoon, so it makes sense to focus on detailed and analytical tasks in the morning before taking a break. Encourage students to adapt their habits if they are inefficient, impractical or overly stressful. It is also important to find **a good balance between work and recreation**, so encourage students to build time for breaks into their schedules and to include rewards when they meet their targets or tick things off their list of tasks.

### Finding a good study space

Students should avoid distractions, such as their phones, the TV, and being logged in to social media. It is a good idea to try and study away from areas where they eat and sleep. They also might like to try studying in different places around the house, as this can sometimes help them to remember what they have learnt. It may be useful to ask students to predict barriers to undertaking work and ask them to plan ways to address these.

### Getting organised and setting goals

Students should think about what they want to achieve or improve and develop a plan to do it. Asking students to share the goals they have set for themselves with their parents makes them more likely to stick to them. They can keep track of upcoming assignments and deadlines by using a paper diary/calendar or an app on their phones, and use this to set their own deadlines for completing tasks.

### Getting a good night's sleep

This is essential to learning well. Going to bed the same time each night, spending some time outside every day, and trying to relax (without devices) in the hour before bed can all help to ensure a restful night's sleep.

In addition to developing routines and habits to help them get on with studying and preparing for exams and assessments, it is also important that students understand how to study effectively so that they use their time productively and efficiently, and don't waste time on study strategies and techniques that have little evidence to support their use.

## Using effective strategies for learning

Teachers should encourage students to think carefully about how they study and explicitly teach them effective strategies for learning and retention. Although re-reading and highlighting notes is a widely-used strategy, evidence shows that it is unlikely to create really strong memories. Similarly massed practice or cramming, a strategy many students use when preparing for exams and assessments, has been demonstrated to be largely ineffective for deep learning and long-term retention.

It is also important for students to understand [memory](#), understanding, and [how people learn](#). It is worth reminding them that a certain amount of difficulty and struggle in their work is desirable and leads to more effective learning and retention, and that holding a [growth mindset](#) will help them seek out and tackle these kinds of challenges in their academic work. Cognitive science research has identified six key strategies that students can be taught to use in order to study and learn more effectively<sup>1</sup>.

### 1. Spaced practice

It is more effective to [spread out studying over time](#) rather than doing it all at once. For example, it is better to spend an hour a day studying maths from Monday to Friday than to spend five hours on it on Monday. Spreading out their learning helps students to remember what they have learned for longer.

### 2. Retrieval practice

[Retrieval practice](#) involves remembering something you have learnt in the past and bringing it back to mind. This helps to consolidate the memory and makes it easier to remember next time it is needed. Students should use retrieval practice to review past learning before learning something new. Tests and quizzes (including students creating these for themselves) are easy ways of doing this.

### 3. Elaboration

[Elaboration](#) refers to describing and explaining something you have learnt. It is effective because you need to understand something deeply in order to be able to explain it. Students can use elaboration by trying to create the explanation themselves before checking their notes to see if it is correct. It is also helpful for students to make links between the ideas they are currently learning and their existing knowledge.

### 4. Interleaving

Rather than focusing on learning one idea for a long time, it is better to [switch between them](#). For example, rather than working on one type of maths problem for half an hour, students should do five problems of one type and then five of another. Interleaving is effective because noticing connections and differences between different ideas helps to strengthen students' understanding of them.

## 5. Concrete Examples

It is easier to remember [concrete examples](#) than abstract information. If students are trying to learn about an abstract concept, it can help them to find several real-life examples. For example, when learning about forces in physics, they might consider concrete situations like a car accelerating and braking.

## 6. Dual Coding

[Dual coding](#) refers to combining words with pictures or diagrams. Presenting information in this way can make it easier to understand and give students more ways of remembering it. It could be as simple as drawing a chart or a doodle in their notes. For example, if they are trying to learn some key dates for a history exam, it might help to put the events on a timeline. There is also evidence that writing out notes by hand might help students to understand and remember the content better, particularly if they try to put things into their own words and use drawings or diagrams alongside the written text.

Using these evidence-based strategies and techniques for studying will lead to deeper learning and long-term retention, rather than the superficial understanding and short-term retention that re-reading and highlighting notes promotes. However, many of these approaches require students to work consistently and regularly, rather than doing all their work in one go, so it is important that they know how to keep themselves motivated to work in this consistent, ongoing way.

## Staying motivated

Getting and staying motivated can be one of the greatest obstacles that students face when working independently and studying for exams. There are a number of principles from behavioural science that teachers can use to support students to develop their motivation.

### Make the first steps easy for students

If the first step is difficult, people can easily get derailed. Making the first step easy should help give students a sense of momentum: they should conclude, 'I can do this'. By ensuring students succeed, teachers can help students gain confidence, build momentum, and form good habits. The more complicated an action or first step, the harder it is to make it a habit. A good start for teachers is to set a clear action or structure for students to follow: for example, they might start every study session by quizzing themselves on the work they covered the previous day. If students follow these steps for long enough, they begin to become automatic. This makes starting work much easier: they just get on with what they always do, rather than having to check what to do, decide an order and wonder if they are doing it correctly. When students are working independently, clear actions are very helpful.

Sometimes teachers worry that a structure like this will get boring for students. But the true source of interest and variety in learning is the topic itself. If students have a clear way to approach the topic, they can enjoy the learning, or at least do it well. They are more likely to struggle if they have to work out what they should do every time they start work.

### Clarify expectations

People respond to what is expected of them, so it is essential to ensure that students are clear about what is expected. Students need to understand exactly what they are being asked to do, so it is important to specify what is essential (and by when), what is optional, what students should do if they get stuck, and how long they should spend on the work.

### Emphasise social norms and use community and peer groups to reinforce positive habits

People's behaviour is influenced enormously by social norms, or the behaviour that is asked of them and that they see around them. If people are unsure what to do, they are guided by what is expected of them and what they see others doing. Panic buying is a good illustration of the power of social

norms: once people see others stocking up, they assume they should too. Students will be influenced by what the school and their teacher expects, but they will be even more influenced by how their peers respond. Consequently, informing them about their peers' positive habits and behaviour can have a big influence on their actions.

The key idea is that if most students are doing what you want them to do in terms of their study and independent work habits, make sure everyone knows about it. Teachers can tell students that the majority of their peers are responding as requested: 'I was delighted to get last week's revision task in on time from almost all of you, and that helped me plan today's session.' Or, more simply, 'Twenty students submitted last week's revision task on time' (although it is important that the information you convey is true). This combines two psychological principles: first, people need to feel that they belong to a community. Second, they respond to the way a situation is framed, not just the situation itself, and the idea of loss is particularly motivating: for example, people work much harder to avoid a five dollar loss than to make a five dollar gain. Combining these principles, a crucial message is that studying is a chance not to 'miss out' and to be part of the school community.

### **Highlight small wins and positive trends**

Big goals are motivating, but they are often too distant to provide an immediate spur to action. What keeps people going are small wins: little boosts which make them feel that they are making progress and heading in the right direction. Designing the first tasks to be the easiest is a powerful way to make small wins possible.

The key idea is that if not everyone is working, but the numbers are increasing, make sure everyone – students and parents – knows about it. Instead of saying 'ten students completed the task last week', tell students that 'I got the highest number of tasks in on time so far last week – next week, I'd like to see everyone's task in on time.'

### **Encourage students to make public commitments and plan prompts**

People who make a public commitment are more likely to act than those who just commit privately. The commitment makes them feel accountable to others: once you have told everyone you are going to make dinner, they expect you to do so. Teachers can encourage students to make a clear commitment about what they will do and when, and to share those decisions with their teachers and parents.

Students are also more likely to act if they set themselves prompts or reminders of what to do when. This could be a simple phone reminder for the specific time they have said they will begin, or they might ask a parent to remind them. It could be more detailed, like a checklist of tasks to complete each day. A checklist should help students to keep on track when they finish one task and move to the next, and it is a simple way for parents to check if their child is doing what they planned to do.

### **Repeated action**

New habits take time to form: this may take around eight weeks, based on repeating the action several times a week, and that is without all the potential barriers students may face. Teachers can expect things not to work initially and students not to form the new habits they would like to see immediately: this is a natural part of the habit formation process. It is important to build in some way of monitoring whether students are forming the habit. If students are struggling, try rebooting or relaunching the habit: pick a landmark (new day, new week) and ask students to start again, make fresh commitments and change details which aren't working.

The bottom line is that teachers can help students to form habits by ensuring they have a clear action, a cue to do it, and that they keep going. The same ideas can help break bad habits: look for the cue, the

context and the action. If getting out of bed has become the cue to start gaming, change the cue, the context and/or the action by moving the console or changing morning routines.

### Hold students accountable

People are more likely to complete a task if they are working towards a deadline. It is important to set students interim deadlines for completing work, ideally every week, so they start to get into good habits. To promote student agency, teachers can ask them to set their own deadlines, although these should be clearly circumscribed: 'I'd like you to choose a date to return this to me – it can be any day before the end of the month'. Again, if parents know the deadlines, they can help to hold students accountable.

This guide is based on resources created for The Education Hub by [Harry Fletcher-Wood](#) and [Peter Henderson](#).

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## Endnotes

<sup>1</sup> All posters were developed by the Learning Scientists: <https://www.learningscientists.org/posters>

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