Practice guide for primary and secondary schools

Develop techniques and practices

Australian Education Research Organisation

Supporting self-regulated learning

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Self-regulated learning refers to students actively influencing their own learning processes on an emotional, behavioural, metacognitive and motivational level.[1, 2] Self-regulated learning techniques equip students to gradually take more control of their learning over time using deliberate strategies to plan, monitor and evaluate.[3, 4]

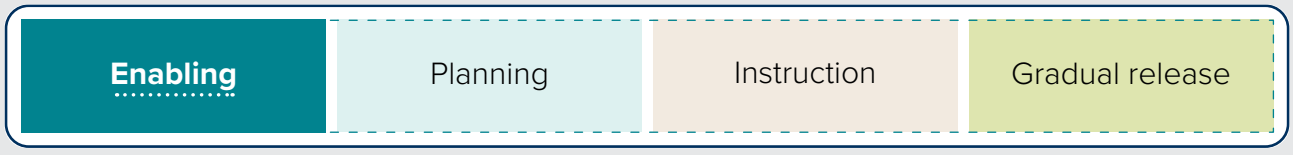
Supporting self-regulated learning involves explicitly teaching students to reflect on which techniques optimise their learning, how to set goals, and how to develop the ability to strengthen their learning.[5] Teachers can support students to identify gaps in their knowledge or areas where they need more practice, as well as to seek additional guidance when they need it.[6] Teaching self-regulated learning strategies gives students an understanding of how learning happens.

This practice guide will help you develop your practice with a greater understanding of:

- self-regulated learning strategies students can apply to their learning
- how you can model and explicitly teach self-regulated learning techniques to help students overcome learning challenges and work towards mastery.

Teach techniques that develop students' capacity to improve their own learning (*Supporting self-regulated learning*) is one of 18 interconnected practices in our Teaching for How Students Learn model of learning and teaching. This practice sits in the **Enabling** phase, which focuses on positive, respectful relationships in a learning-focused environment. This practice is interconnected with:

- **Planning**, which focuses on developing and using a sequenced and structured plan for the knowledge and skills students will acquire
- **Instruction**, which focuses on managing students' cognitive load as they process and acquire new learning
- **Gradual release**, which focuses on maximising students' opportunities to retain, consolidate and apply their learning.



Understanding this practice

These examples demonstrate what supporting self-regulated learning might look like in the classroom, and potential misapplications in practice.

What it is

- Equipping students with knowledge of effective learning techniques, and modelling and scaffolding the use of strategies for students.
- Supporting students in developing learning goals that reflect their own aspirations for learning success.
- Monitoring and providing feedback on the strategies students are using during learning, acknowledging improvements and sharing ways to strengthen learning further through self-regulated learning.
- Encouraging and scaffolding self-evaluation so students consider how well they're going in their learning, what they need to do next and how to get the best from their efforts.
- Providing scaffolds and further guided practice opportunities when a student encounters a difficult problem during independent practice. For example: 'I see that you've followed the steps but got the wrong answer. Can you double-check your working out to figure out where this went wrong?'

What it isn't

- Designing tasks and environments that require self-regulation without teaching and modelling strategies for success.
- Restricting the focus of student goals in ways that don't allow students to reflect their own aspirations and definitions of success.
- Measuring student success based only on whether they promptly attain a goal or specific grade, without recognising progress, effort and their developing learning skills.

The importance of supporting self-regulated learning for effective teaching and learning

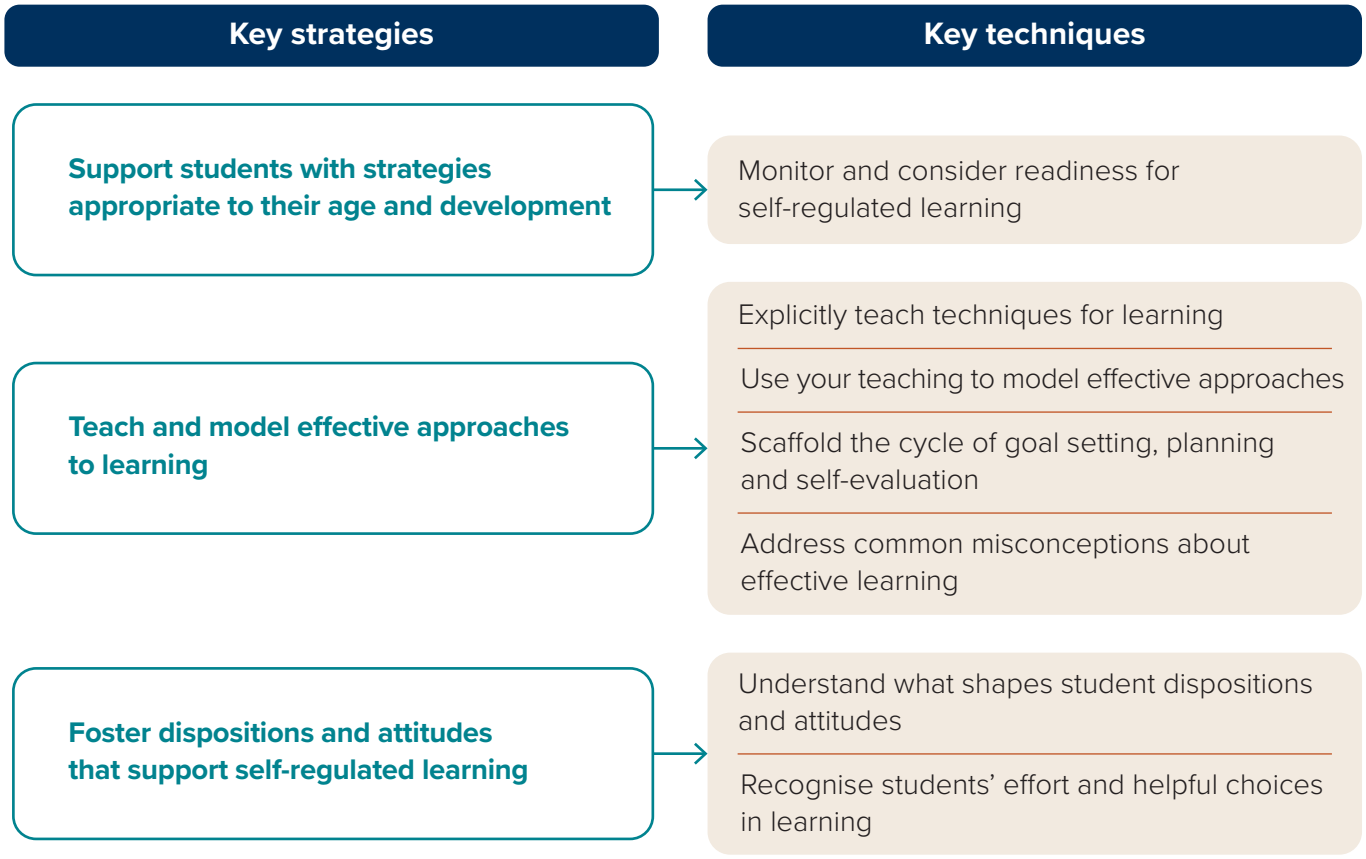
Key points from the research

- Students' capacity for self-regulated learning develops progressively, meaning some students may be ready to engage with self-regulated learning earlier than others. Students' age, stage and prior experiences significantly impact their capacity to self-regulate.[7] It is important to recognise that some children may experience difficulties with learning and behaviour, particularly in the areas of concentration, attention, language, planning, organisation problem-solving, and regulating emotions. Such problems can interfere with students' ability to self-regulate, especially for students who experience trauma or disability.[8]
- Building students' awareness and skills in self-regulated learning helps them retain their learning, gain mastery and experience learning success more efficiently and effectively.[9]
- Explicitly teaching self-regulation techniques is important because even when students are motivated to learn, they may not know about or adopt habits that are effective in optimising their learning.[10, 11]
- Explicit teaching of self-regulated learning techniques builds students' ability to become successful, effective and efficient learners who are well-equipped to apply their knowledge with increasing independence and confidence.[12, 13]
- Students who develop self-regulated learning skills are better equipped to succeed in learning not only at school but throughout their lives. When students feel a sense of ownership over their learning, they also tend to be more motivated and engaged, helping them persist and know how to cope with learning difficulties when they arise.[14] Teachers can help build students' self-efficacy, and over time, success can become motivating in and of itself.[15]
- Engaging with families can indirectly improve learning outcomes for students by supporting them in developing their capacity to regulate their learning and set relevant goals.[16] Students, and their families and communities, may hold aspirations or define success in learning in ways you don't yet know about or understand. This is especially relevant for First Nations young people, who are learning within an education system that was never designed for them, as well as for other culturally and linguistically diverse communities.[17]

Key strategies and techniques

Teaching effective self-regulated learning strategies, and modelling these during your teaching, can develop students' capacity for self-regulated learning. This section describes key strategies and techniques (see summary in Figure 1) that you can use to embed a focus on self-regulated learning in your practice.

Figure 1: Key strategies and techniques to support self-regulated learning



Support students with strategies appropriate to their age and development

Monitor and consider readiness for self-regulated learning

Consider carefully when to introduce specific techniques for self-regulated learning. Some students may be ready to monitor and reflect on their progress from the time they start school, but are still likely to need direct guidance and scaffolding to apply these strategies to their work until at least the upper primary years. Signs of readiness include a capacity for developing an organised approach to learning, an ability to communicate effectively, an ability to accept feedback, and some capacity to engage in scaffolded self-reflection and evaluation. Supporting students to develop skills in regulating their emotions, such as by naming and understanding emotions, and developing strategies to regulate stress (for example, by breathing, and pausing) can help them focus and improve their readiness for self-regulated learning.[18, 19]

Support students who are ready for self-regulated learning tasks by:

- teaching and modelling learning techniques most likely to be effective
- addressing misconceptions about learning that may hinder student progress
- fostering positive dispositions for learning.

Teach and model effective approaches to learning

Explicitly teach techniques for learning

In time, students may adopt effective learning techniques for themselves but many students will benefit from explicit teaching and support to guide their approach to learning throughout their schooling. The following are approaches that can be modelled and taught to help students understand how to improve their success in learning.

- ***Explaining***, such as how new information is related to prior knowledge and the steps taken to solve a problem. Support students to elaborate and draw connections by using scaffold questions that begin with Who? What? When? Where? Why? How? such as, 'Why is X true?' 'Why is this the right method to use for this problem, but not for X problem?', 'How does X occur?'
- ***Concept mapping*** by organising the knowledge systematically, using a combination of visual and textual elements. Support students with doing this by providing examples of content organisers, and helping them identify and map connections between key concepts they're learning for themselves, so they can develop deeper understanding.
- ***Summarising, synthesising*** and ***explaining*** the key parts of a text. Summarising is a complex activity. You can support its effectiveness by teaching students how to determine what the essential ideas in a text are, how to identify and disregard irrelevant information, and how to communicate central ideas concisely in their own words.
- ***Self-evaluating, checking work*** *and* ***self-testing*** on material being learned or previously learned. Prompt students to check their own work during guided or independent practice tasks using annotated work examples or answer sheets.
- ***Practising***, with tasks prompting active recall of learning over a period of time. Encourage and help students plan to mix up their revision so that they're not 'cramming' similar information during one long study session. Instead, help them break up their study of learning areas, and recall information in different ways, such as via practising test questions and generating summaries.
- ***Interleaving*** by organising practice tasks so consecutive problems need to be solved using different strategies. This assists students with actively selecting the right strategy, and mastering that strategy, rather than answering questions by habit without needing to consider which strategy is most appropriate.

Use your teaching to model effective approaches

Make your thinking and techniques visible to students with the aim of showing them what techniques best support learning, and when to apply them, so they can adopt these during their own learning practice. For example, explain to students that when you set small, regular homework activities, you're providing opportunities for them to engage in spaced practice and revision. Prompt students to self-regulate using the same approach by spreading out study time and revisiting information regularly instead of cramming.[20]

Scaffold the cycle of goal setting, planning and self-evaluation

When students are ready, teach them to plan, monitor and evaluate their own approaches to learning. This can include setting (and regularly revisiting) clear, specific and achievable learning goals, creating plans and strategies to achieve goals, reflecting and monitoring progress.

Help students to set goals that reflect their own ambitions and identities. Working towards goals students see as relevant may increase their motivation and positive dispositions towards learning and self-regulation. Engage with families and communities to help you work with students on goals that you may not have planned for or immediately understand. Consider your approach to engaging with families in primary schools and secondary schools, as well as with families of students from culturally and linguistically diverse backgrounds and families of students who experience disability.

Address common misconceptions about effective learning

There are common and pervasive misconceptions about the best ways to learn. Help students understand and identify which techniques are most effective and which are less likely to aid retention, recall and application. Examples of techniques students commonly use[21] that are less likely to lead to effective or efficient long-term retention include:

- 'cramming' (that is, practising or revising large amounts of material in a single session)
- using imagery for text learning (that is, attempting to form mental images of text materials while reading or listening)
- simply re-reading content after previously reading it
- highlighting/underlining material
- summarising material before understanding the knowledge, concepts and relationships it describes.

Foster dispositions and attitudes that support self-regulated learning

Understand what shapes student dispositions and attitudes

Students' capacity for self-regulation is influenced by their perceptions of themselves as learners (which may be informed by past achievement), their age and stage of learning, their subject knowledge, their values, relationships, and family influences. Your influence on student dispositions can be a potentially powerful tool in supporting students' self-belief and willingness to adopt effective learning strategies. Your attitudes, dispositions, actions and words provide influential signals to students about what is valued, how they're understood and how and whether they can be successful. Help students build positive self-belief by offering clear success criteria and multiple entry points with a range of difficulty so students are encouraged to give tasks a go while striving for challenge.

Recognise students' effort and helpful choices in learning

Feedback about the personal progress students are making (using their goals), as well as recognising successful strategies they're using, is more helpful in building student self-efficacy and motivation than only comparing students' attainment to other students or to a standard. Tell students you value them as part of the class and believe in their ability to succeed. Prompt students to acknowledge and reflect on their own success, and on what supported their improvement. The experience of success, and understanding how to succeed, can motivate students towards continued improvement.

Developing your practice

Consider what's informing your current practices, expectations and beliefs. Use these questions to reflect, make a plan to develop your practice and seek feedback to monitor the impact for your students.

- Consider some of the most and least effective learning techniques described in this guide. What self-regulated learning techniques do you think your students could most benefit from (taking account of their age and learning stage)?
- What effective learning techniques do you model for your students through your teaching approach? How else might you teach and scaffold students' to develop and adopt these techniques?
- How do you observe and seek insights from students to better understand the impact of their attitudes, habits and techniques on their learning progress? How can use these insights to target your approach to teaching self-regulated learning techniques to students' needs?
- Fostering culturally safe and inclusive learning environments requires you to be responsive to the needs of others. What steps are you taking to create an environment where all students feel valued, supported and empowered to improve their own learning? How will you know if this has been effective?

Further reading

Education Endowment Fund. (2018). *Metacognition and self-regulated learning: Guidance report*. https://evidenceforlearning.org.au/education-evidence/guidance-reports/metacognition

This guidance report offers practical, evidence-based recommendations to support teachers in helping their students develop metacognitive knowledge and skills to plan, monitor and evaluate their work.

Kirschner, P. A., & Hendrick, C. (2020). Learning techniques that really work. In *How learning happens: Seminal works in educational psychology and what they mean in practice* (207–2018). Routledge.

This chapter presents evidence to explain which study techniques are most effective in supporting students' long-term retention of the information they study. It also explains how teachers can deliver instruction in ways that model effective self-regulated learning techniques for students.

Willingham, D. T. (2023). *Outsmart your brain: Why learning is hard and how you can make it easy*. Souvenir Press.

This book identifies a range of effective study techniques that increase retention of information and support development of mastery. Each chapter includes advice for teachers about ways to support their students in adopting effective techniques.

Endnotes

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