

## **AEROGUIDE: STAGE-2**

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### **Abstract:**

Revisiting learning is the practice of regularly coming back to contents so students can review what's already been taught. Reviewing can consolidate what's been taught, as well as support new learning by activating prior knowledge. When combined with checks for understanding, reviewing learning can help you determine what students have learnt and what additional instruction you need to provide. This practice guide will help you understand how to provide regular opportunities for students to review their learning, identify, model and integrate the features of effective review to support students with retaining and applying their learning.

### **Understanding this practice**

These examples demonstrate what revisiting and reviewing learning might look like in the classroom, and potential misapplications in practice. To maintain active student engagement and consolidate learning. Planned, regular reviewing - and reteaching where necessary - focused on learning that has happened recently (such as during the last lesson), as well as learning that occurred longer ago (such as in the past week, month, term or year). A supportive technique for students who need additional instruction and opportunities to practise (such as when you've identified gaps in the knowledge students need to address the current learning objective, which your additional instruction could help to address). A formative assessment opportunity to guide decisions about the teaching and practice needed before you and the students move on to new learning. An opportunity for you to model effective approaches to reviewing information so students can understand how to build these practices into their own approach to learning and studying.

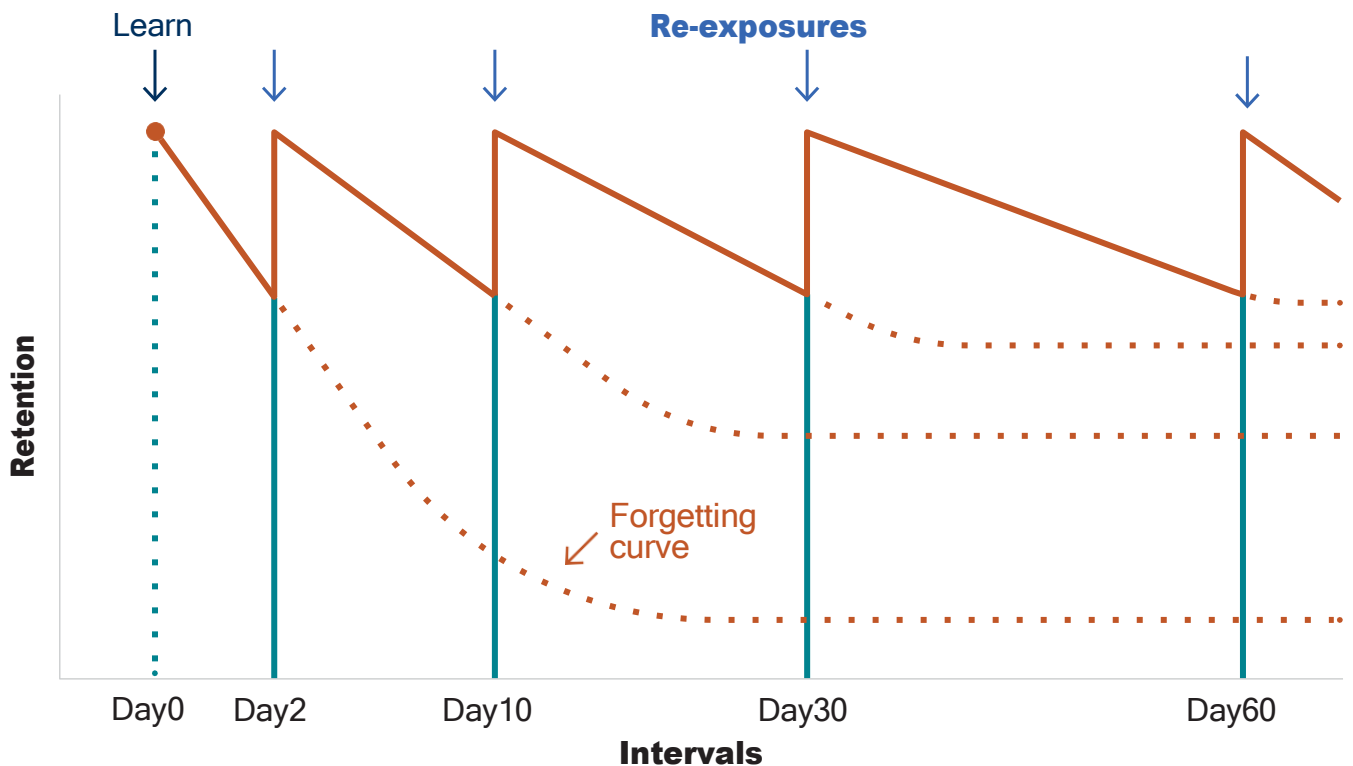
## The importance of regularly revisiting and reviewing learning

### Key points from the research

- Students may be able to recall information immediately after they've learnt it, but without regular review, the ability to recall will fade.<sup>1</sup> The forgetting curve (Figure 1) demonstrates how each recallof learning makes it more likely to be retained and not forgotten.<sup>2</sup>

The biggest drop in retention happens soon after new learning. The more times we're reminded about and practise using what we've learnt, the longer the interval until we need to be reminded about it again.

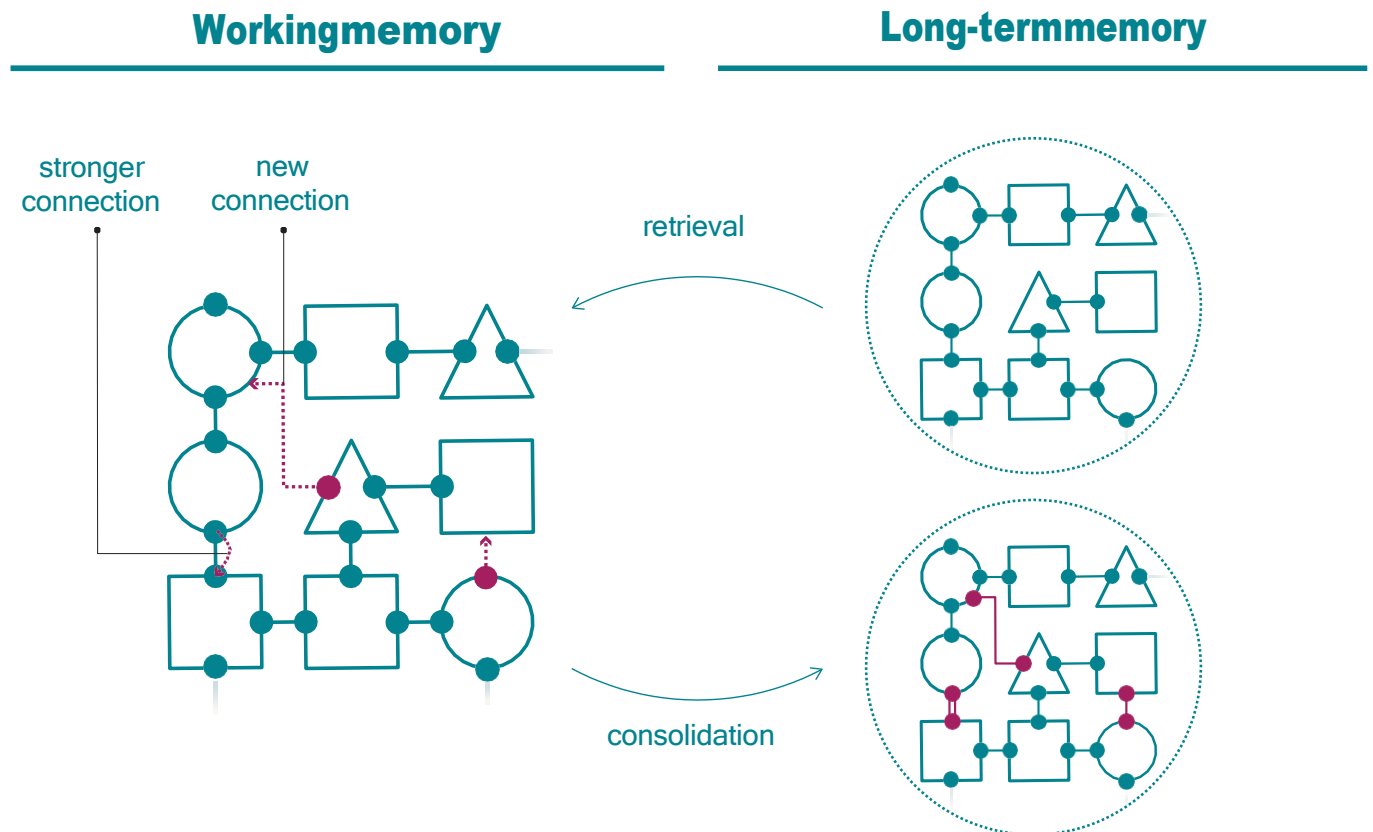
**Figure 1:** Forgetting curve



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- Each new experience of recalling knowledge and skills builds and strengthens the connections in memory (Figure 2), which in turn develops automatic recall and makes it easier to use and apply to solve problems or undertake complex tasks.<sup>3</sup>

**Figure 2:** Retrieval consolidates knowledge in long-term memory



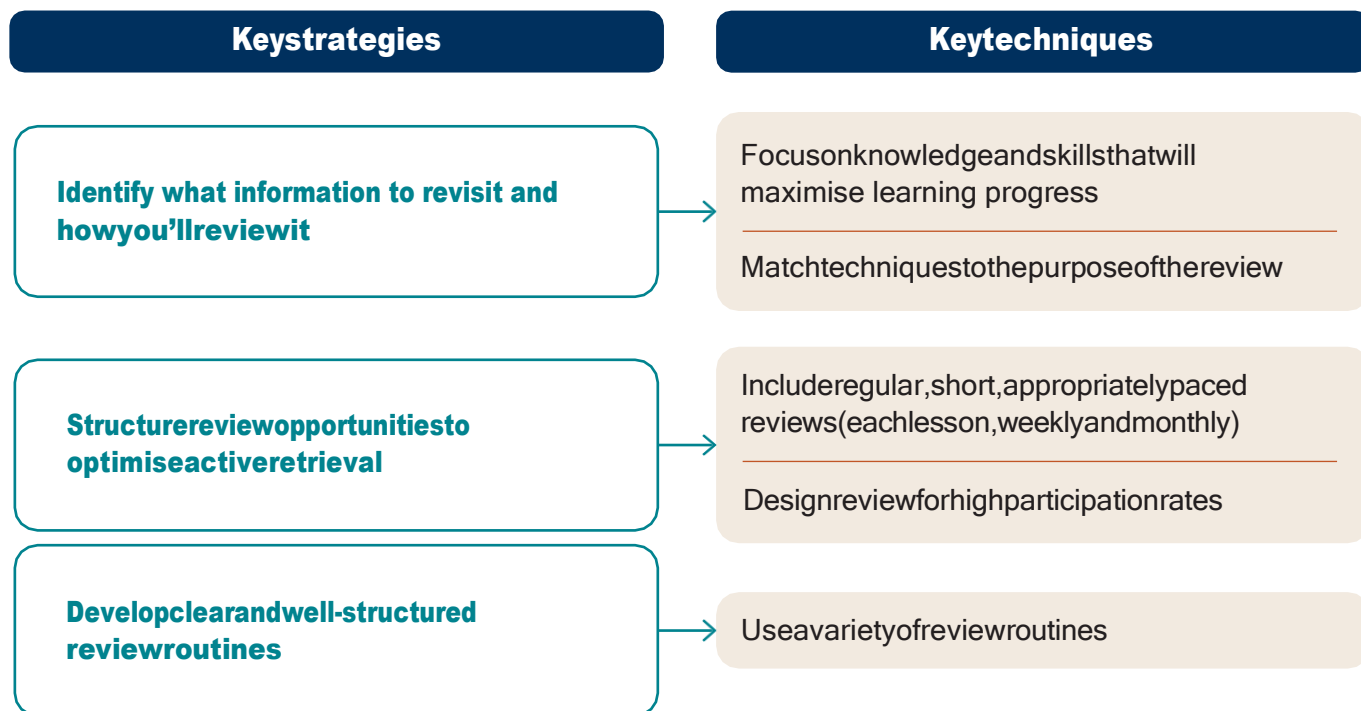
- Information that can be automatically recalled from long-term memory doesn't burden working memory. Freeing up working memory makes new, related information easier to attain and remember.<sup>4</sup>
- Students will consolidate their learning at different paces. Some will benefit from additional and more frequent review opportunities.<sup>5, 6</sup>
- It's important to use a variety of approaches when reviewing learning and to mix up the content being revisited. Rigid, repetitive reviews can lead to students passively recognizing inf

ormation and applying the same strategy to solve problems without actively thinking about which strategy is best suited. This can result in poor retention and less flexible knowledge, which students may have difficulty applying to less familiar contexts and tasks.<sup>7</sup>

## Key strategies and techniques

Various approaches can be used to encourage students to actively revisit and review their learning. This section describes key strategies and techniques (see summary in Figure 3).

**Figure 3:** Key strategies and techniques for revisiting and reviewing



### Identify what information to revisit and how you'll review it

#### Focus on knowledge and skills that will maximise learning progress

Select the most pertinent information for review by considering which learning content (including words/vocabulary, facts, concepts, ideas, skills and procedures) students need to be able to recall automatically to progress their learning. When determining what needs to be reviewed, prioritise what's been previously taught that is:

- still unknown or only partially remembered (based on response to checks for understanding)
- critical to students being able to progress
- likely to be useful and meaningful to students
- prerequisite knowledge for the next stage of learning.

#### Match techniques to the purpose of the review

The purpose of review may be to strengthen initial accuracy, build fluency, prepare for an assessment or support students with revisiting and reviewing the learning related to what comes next.<sup>9</sup> Draw on a variety of routines and techniques suited to the specific purpose (described in [Use a variety of review routines](#)).



## Structure review opportunities to optimize active retrieval

### Include regular, short, appropriately paced reviews (each lesson, weekly and monthly)

Combine opportunities for review immediately after students have learnt something new (such as during the next lesson) with review opportunities spaced at longer intervals (such as the following week, month or term). Spaced review activities can be integrated within a lesson - such as reviewing vocabulary multiple times through the lesson where it's being used - or over a longer period in a term - such as reviewing a foundational concept or procedure every other month.<sup>10,11</sup> The aim is to review content at a brisk pace, but not so fast that students can't actively participate, and not so slow that students become distracted and disengaged.

There's no hard rule to indicate how many times students need to review information or how far apart reviews should be spaced. Instead, the required frequency, timing and duration of review tasks depends on:

- students' age and stage of schooling
- the type of information being reviewed
- how long it's been since the students learnt the information
- how many prior review opportunities they've had
- the learning needs of the students (for example, when students are learning particularly complex material, they may benefit from more frequent review, and some students experience information processing limitations that necessitate more regular review).

In general, opportunities for review should:

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- be provided regularly (such as each lesson)
- be appropriately spaced rather than crammed together
- have a brisk pace and take up a small proportion of the lesson
- cover a range of topics across the week or term
- mix up the type of information being reviewed and the strategies students need to apply.

### Design review for high participation rates

Interactions and questions during a review should encourage all students to think about what they know. Incorporate familiar question and response routines that prepare and require all students to consider the question and be ready to respond. You may use methods that invite multiple concurrent responses, such as:

- presenting a statement and asking all students to put their hands up to indicate if they think the statement is true or false
- asking all students to record their answer on a whiteboard or share their answers with a peer
- inviting choral response
- asking all students to fill in the blanks in a segment of text shown on the board.

Other varied methods to reinforce active participation by all students are suggested in our [Monitor Progress](#) practice guide.

## Develop clear and well-structured review routines

Rules and routines structure the learning environment with clear, safe and predictable ways of working and engaging. This helps students actively participate and helps manage cognitive load.

### Use a variety of review routines

Structured review opportunities can be provided at the start of and during lessons using the following routines and techniques:

**Starter activity review:** A starter activity (sometimes called a 'do now') is a student-led activity that's ready with instructions for students to begin as soon as they enter the classroom. It can prompt students to review and apply knowledge that was covered in recent lessons, forming the first part of a daily review. To be most effective, check for understanding and provide immediate feedback to confirm correct answers, model processes and calculations, and address any misconceptions. The starter activity may include activities set from the previous lesson for independent practice. In classrooms where homework is set, starter activities may also focus on a review of homework problems.

**Daily reviews:** A daily review is a short, briskly paced teacher-led routine where a variety of concepts and skills are reviewed. In secondary schools, daily reviews may occur each lesson (which may be less than daily).

The optimum length of daily reviews is dependent on the age and stage of the students you're reteaching. As students get older, they can focus on longer reviews. A review shouldn't exceed 10 to 20 minutes.

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Otherwise, it will occupy a large proportion of the lesson. It may need to be as short as 5 minutes for young students. If setting a starter activity, you may choose to run a very short daily review or no daily review at all, to manage the amount of time spent between reviewing and learning new content.

Daily reviews may include a combination of question types, requiring students to recall facts and key ideas, as well as apply their knowledge to solve problems and answer questions. To support active engagement, a mix of techniques should be employed – for example:

- presenting questions via slides, as well as running more interactive multiple-choice quizzes
- asking students to show answers on mini whiteboards
- providing sentence starters that students can build on to explain their learning
- having students draw index cards and respond to the questions on their selected cards.

Daily reviews should be brisk, allowing a large volume and variety of content to be covered over time and helping support student attention. Daily reviews should also be highly interactive between students, their peers and you as the teacher, using techniques that encourage participation from the whole class (see our [Monitor Progress](#) practice guide for key techniques). If you find that your daily reviews include questions that most students don't know the answer to or facts and key ideas that they haven't retained, consider reteaching at that point (potentially using a different approach). Reteaching can also happen after the review has finished or in a future lesson (considering whether gaps or misconceptions include knowledge and skills that students need to apply during the activities of the lesson). Revisiting the same material during your next review activity can help you determine if more frequent revision is supporting students with retrieving their prior learning.

**Adjusting difficulty and pace of daily review:** It may help students to engage with review activities at different levels of difficulty for very short periods of the daily review. Review questions and activities can also be modified to allow for different paces of students' responses. For example, a spelling review routine can include an option for students to write words in a sentence if they finish spelling them earlier than others.

**Revisiting content during a lesson:** Opportunities for review can also be embedded during the instructional components of lessons. For example, regularly revisiting and reviewing vocabulary or concept explanations during lessons is a good way to support equitable access to lesson content.

**Low-stakes quizzes:** Low-stakes quizzes are a type of formative assessment that provide opportunities for students to practise, make mistakes and get feedback on their learning within a learning culture and context that ensures student experience minimal consequence or risk. The safer students feel taking risks and making mistakes, the better they can engage in low-stakes review practice. Daily reviews can be run as low-stakes quizzes, and broader weekly and monthly reviews can also be operated in this way.

**Spaced repetition software:** This software (some of which is freely available online) allows you to input content that prioritises the knowledge you would like students to revisit and review. The software creates flashcards and questions you can use to support students to recall knowledge at spaced intervals.

**Discussions about prior learning:** Ask students to review content from a previous lesson and then discuss this with a partner, while you monitor and provide feedback. Allow all students time to think independently before sharing ideas with another person. This will prompt every student to participate in retrieving information from their long-term memory. To increase the effectiveness of this process, set a topic or

ask that encourages students to actively engage with their prior learning rather than only re-reading lesson notes. For example, asking students to distil their learning about a key concept into a small number of dot points, or explain the key elements of their learning in writing, verbally or graphically, assuming the audience is someone who hasn't studied that topic before.

## Endnotes

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