

Mastery learning

Science



This document provides a suggested for facilitating a group session where teachers can use the mastery learning in science video to reflect on their own practice. It could also provide guidance for activities for self-directed professional reflection.

These activities aim to:

- build knowledge of mastery learning and of AERO's guidance in this area
- assist in developing teaching strategies involving mastery learning
- encourage teachers to embed mastery learning in their practice.

The content included in this group facilitation guide aligns with standards including:

- **Australian Professional Standards for Teachers Focus Area 6.2** This resource is related to 'Focus Area 6.2 Engage in professional learning and improve practice'.
- **Australian Professional Standards for Principals Professional Practice 2** This resource is related to 'Professional Practice 2 Developing self and others' in the Australian Professional Standards for Principals.



[Watch Mastery learning in Science](#)

Facilitator preparation

The following is an example checklist to help you prepare for the session.

- ✓ **Review the materials**
 - Read AERO’s [Tried and Tested Mastery learning practice guide](#).
 - [Watch the mastery learning in science video](#). Note down any key points that would be valuable for your team and any aspects that need clarification.

 - ✓ **Plan the session**
 - Make sure to give your team sufficient notice about the session so they have time to do the pre-work.
 - Consider how the session can specifically assist your school and your students.
 - Think about what you want participants to be able to do as a result of this learning session. For instance, be able to identify what it is they want their students to know and do as a result of the sequence of lessons, or understand how they might collect evidence that students have progressed in their learning.

 - ✓ **Consider how change will be promoted in your school**
 - What is the team’s understanding of the purpose of each unit of work?
 - What will it look like when students have mastered the desired skills and knowledge?

 - ✓ **Prepare to facilitate**
 - Read through this resource and highlight the key elements and the questions you plan to ask.
 - ‘Road-test’ the session with one of your colleagues to clarify any aspects of mastery learning that you are unsure about and to make sure you are confident with each step.
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Attendee preparation

The following is an example checklist of pre-session work to set participants before they attend.

- ✓ Read AERO’s [Tried and Tested Mastery learning practice guide](#).
- ✓ Identify one aspect of Mastery learning that you would like to learn more about.
- ✓ Think of an example lesson where you broke down complex skills or knowledge into smaller instructional tasks and allowed students to practise the tasks until they mastered them.

Asking participants to identify one aspect they would like to learn more about will help you to focus the efforts of the session. Is it going to primarily discuss mastery learning as a concept? Will it focus more on what the purpose of a sequence of learning is, and what it might look like? Or perhaps ways in which a teacher might gather the evidence required to know whether students have mastered a concept or idea?

Mastery learning session agenda

The following table outlines a possible agenda for a 45 minute group session.

Timing	Agenda item	Notes
5 mins	Welcome and Acknowledgement of Country	
5 mins	<p>Review the key aspects of AERO's Mastery learning Tried and Tested guide</p> <ul style="list-style-type: none"> • Learning should be broken into small, manageable tasks to reduce cognitive overload. • Assess student mastery as you go to make sure foundational skills and knowledge have been mastered before trying to build upon it in later parts of the sequence. • Provide opportunities for both revision and enrichment. 	
10 mins	<p>Think about your own teaching practice</p> <ul style="list-style-type: none"> • How do you use mastery learning in your own practice now? <p>Focus on strengths</p> <ul style="list-style-type: none"> • What do you think we do well? • What aspects of mastery learning are you not so sure about? • Are there parts of it that you use less in your current instruction? <p>Think, pair, share</p>	<p>Mastery learning is a complex teaching practice that involves many different aspects. Implementing mastery learning effectively requires sustained focus and deliberate practice.</p> <p>At this point it is worth checking with your team about what they might need to discuss, as this will help focus the session.</p>
5 mins	Mastery learning in science video viewing	You may wish to pause at certain points of the video to reiterate a point or idea.
15 mins	<p>Video consideration</p> <ul style="list-style-type: none"> • What is something that you learnt from watching this teacher discuss how they implement mastery learning in their lessons? • Was there anything in the video that you found surprising? • Which parts of mastery learning would you want to know more about? • Do we have a common view of what students would say, do, write or make to demonstrate mastery in a particular unit? If not, how might we develop this common view? • How might we quickly gather information about students' level of learning in a particular area or subject? • How do we conceptualise reteaching and enrichment in our subject? How can we plan for these aspects of mastery learning? 	You may want to skip the general discussions at the start and move onto the specifics.

Timing	Agenda item	Notes
5 mins	Feedback <ul style="list-style-type: none">• What additional support would help you to explore aspects of mastery learning?	

Post-session review

This could be in the form of another meeting, online session, peer coaching session or some other format agreed by the group.

- Reconvene the team after several weeks to review key aspects of mastery learning and to share experiences. Questions to ask could include:
 - What changes to practice have been relatively simple?
 - What parts have been challenging for you?
 - How can the school assist you to implement mastery learning in your classroom?

Meeting reflection

It is important for you to reflect on the session and the progress of your team. The following questions can help you think about the outcomes and next steps for improving your mastery learning practice.

- Were there differences in expertise between members of the group?
- Are there members of the team who you felt left the meeting still a little unsure of what mastery learning in practice looks like? What could you do to follow up and provide support?
- What are the aspects of mastery learning that require further learning?
- What parts of the session worked well for the group?
- What aspects were less successful?