Tried and tested
Teaching practices that make a difference

Australian
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Mastery learning
Know how to make sure your students learn

Australian Professional Standards for Teachers | Focus Area 3.2: Plan, structure and sequence learning programs

This guide is one in the Australian Education Research Organisation (AERO)'s Tried and Tested series on evidence-informed teaching practices that make a difference. Teachers can use these guides to reflect on their classroom practice and inform their planning for future instruction.

For this guide, AERO has synthesised the most rigorous and relevant evidence-based practices from meta-analyses, systematic reviews and literature reviews. AERO has rated these sources of information against its Standards of Evidence, focusing on evidence generated in an Australian context where possible.

Mastery learning is a way of designing units of work so that:

1. Each task (or set of tasks) focuses on a particular learning objective.
2. Students must master a task in order to move onto the next one.

Teachers use formal or informal assessments to monitor students' progress and provide additional support to students who have not yet mastered the learning required in the task. Research shows that when instruction is sequenced in this way, students learn more efficiently and effectively.

This guide outlines evidence-based practices for implementing mastery learning. Note that some of the examples offered may not apply in all contexts, may be more suitable for primary students than secondary students (and vice versa), and/or may look different in different content areas. Reasonable adjustments must be made where necessary to ensure full access and participation for students with disability.

1. **Break down units of work into tasks with clearly specified objectives.** You and your students should know what is expected from every task.

   - Identify the set of learning objectives that your students need to address and describe how they will show evidence of mastery. These should be aligned to the curriculum and be responsive to student needs.[1]

   - Design tasks for your lessons that explicitly teach students each of the skills or understandings required in order to show mastery. Ensure that during each task, you explicitly state and explain the learning objective and what would constitute mastery.[2]

   - Sequence the tasks so that they build upon each other. You should be able to explain to your students how each task builds on previously learnt objectives.[3]

   - Explain to students how each task is related and builds upon the last – for example, you can show them the progression of learning objectives that you have planned. This may help students understand why you are so determined that they master a particular task before they can move on.[4]

2. **Use formative assessment to monitor student understanding and progress.** You should know exactly where each student is in their learning.

    *   Formatively assess your students after each task. These assessments do not need to be time intensive, formal or assessed using marks. What is important is that any assessment should show you what your students have and have not learned (including any misconceptions) and help you decide if students can proceed to the next task, or if re-teaching is needed.[5]

    *   Ensure your students receive frequent and specific feedback. Your feedback should help students understand what they were expected to learn, identify what was learned well and describe what still needs to be learned – followed by further teaching.[6]

    *   Use information from your formative assessments to reflect and refine your own teaching. Ask yourself, 'Are there patterns in what my students are not learning? Do these relate to how I am teaching these particular objectives?'.[7]

3. **Provide opportunities for revision and enrichment.** Take full advantage of your students' learning time by ensuring tasks are adequately chunked and appropriately sequenced for their level.

    *   Re-teach tasks to students who have not met the learning objectives. Mastery learning is most effective in situations where all students are learning together at a teacher-directed pace. So, if few students need re-teaching, then try using flexible grouping strategies and differentiated instruction.[8]

    *   Provide enrichment opportunities in class for students who demonstrate early mastery. These enrichment opportunities should allow students to apply their skills and knowledge so that they are challenged in their learning.[9] Students might be asked to apply what they have learned in a new context or be guided towards more complex formulations such as higher-order vocabulary, for example.

    *   Once students have mastered an objective, plan opportunities for review and space practice sessions over time. This helps students retain their skills and knowledge – for example, if you assign homework, include some previously mastered tasks, rather than only the task that was covered in class on that day.[10]

The evidence-based practices outlined in this guide are proven to provide the greatest chance of success for addressing learning gaps and disruptions to student learning. These practices will make a difference when implemented in conjunction with formative assessment (know where your students are), explicit instruction (know how to teach your students) and focused classrooms (manage the classroom to maximise learning).

Mastery learning is most effective when all students are learning together at a teacher-directed pace.

To provide feedback on this guide or view further information, including full references and additional resources, visit AERO's website.

1   Guskey, 2010

2   Bloom, 1968

3   Bloom, 1968

4   Panadero & Jonsson, 2013

5   Bloom, 1968

6   Son & Simon, 2012

7   Heitink et al., 2016

8   Guskey, 2010

9   Guskey, 2010

10 Kang, 2016