

Maths Lesson Plan Libraries

Providing maths teachers with banks of high quality, curriculum aligned lesson plans to increase the efficacy of their classroom teaching and to reduce their preparation time for teaching each unit or topic.



Which challenges does the model address?

- **Teacher capability and confidence** – Maths lesson plan libraries provide lesson planning and content support for teachers with limited experience or confidence. This is especially helpful for primary school teachers who typically have access to fewer maths teaching resources than secondary school teachers.
- **Teacher capacity and efficiency** – Lesson plan libraries provide out-of-field or inexperienced primary teachers with explicit direction on the approach and content needed to teach each maths topic. This saves a substantial amount of time on lesson preparation, which we heard is a major constraint on teachers' capacity.



Target Groups

Online lesson plan libraries can be used by all teachers, though they are particularly valuable for primary school teachers, early career and inexperienced teachers, and teachers with limited access to professional networks. Teachers with limited access to professional maths networks, such as early career teachers or those located in smaller schools in regional or remote areas, can use lesson plan libraries to supplement and enhance their teaching.



How the model works

Maths lesson plan libraries provide teachers with an online resource bank that they can draw upon to prepare their classes. Typically, the libraries include the following features:

- **Scoped and sequenced to the Australian Curriculum year levels** – Most lesson plan libraries align with the Australian Curriculum or offer rubrics to explain where each lesson plan fits into the Australian Curriculum.
- **Quality assured lessons** – Most lesson plans have been prepared by groups of highly experienced maths teachers and peer reviewed to ensure quality.
- Lesson plans include formative assessments including starter quizzes and worksheets for maths.
- **Lesson plans and resources are customisable by teachers** – Most libraries allow teachers to access editable versions of each plan so that they can add, remove or edit content to align with their class's learning context.
- **Videos of lessons being taught accompany each lesson plan** – Some libraries provide videos with each lesson plan. The videos show an experienced maths teacher delivering a class using the plan, which provides role modelling of how to present the content to the year level it is designed for.

Examples of maths lesson plan libraries include Ochre and the Catholic Dioceses of Armidale's MaST program. There are also lesson plan libraries built into fully featured teaching and learning platforms such as Atomi, Education Perfect, Mathspace and Maths Pathway.



Success Factors

- **Accompanying videos for resources** - Having videos accompanying resources which outline how the resources can be used and explaining the content is essential for teacher understanding.
- **Curriculum aligned resources** – Content must be aligned to the Australian Curriculum (as applied through a State/Territory syllabus or curriculum where relevant) to be useful for teachers.
- **Implementation support** – Teachers must be supported in understanding how the model works and how it integrates into the classroom before using the content. This support can be from the lesson library provider or from their school.



Caution factors

- **Appropriate professional development** - The model relies on using lesson plan content as a base for the lessons, which the teacher then adapts to make it optimal for their class. Teachers need appropriate support to know how to do this, for example how to integrate formative assessments into their teaching and address knowledge gaps in the class.
- **Quality Assurance by teachers** - We heard from an experienced Victorian maths teacher that some videos with some lesson plans are higher quality than others in different platforms. Before providing these videos to students or parents, teachers should review them for relevance and alignment with learning objectives.
- **Limits to curriculum coverage** – At the current stage of content development, not all platforms fully cover the maths curriculum at every year level so teachers must assume they will need to generate their own lesson plans to cover some units.

Teachers require a device and internet to access the online lesson plan library.



Cost

There are non-profit online maths lesson plan libraries such as Ochre which are provided to teachers free of charge. Commercial providers of lesson plan libraries typically charge on a per-student, per-year basis, typically at a price point below the cost of comparable hard copy textbooks.