







# Implementing the recommendations of the Independent Panel Review

Recommendation	Status	Milestones achieved
<b>1. The VCAA should increase the representation of suitably qualified academics on the Mathematics Examination Development Panels including by:</b>		
a. Establishing stronger partnerships with Mathematics faculties at Victorian universities to encourage the participation of suitably qualified Mathematics academics in Examination Development Panels.	 On track for full implementation	<ul style="list-style-type: none"> <li>An agreement with Monash University for 2024 and 2025 provides senior mathematics academics for all Mathematics examination panels.</li> </ul>
b. Updating the advice on the VCAA website to ensure that it is clear that academics are an important cohort for inclusion in Mathematics Examination Development Panels.	 Completed	<ul style="list-style-type: none"> <li>The VCAA website was updated to include information about including academics in examination development. Pages – VCE Examination Improvement (vcaa.vic.edu.au)</li> </ul>
c. i) For the 2024 examinations, include 2 Mathematics academics as additional Study Specialist Reviewers for Mathematical Methods and Specialist Mathematics and one Mathematics academic as an additional Study Specialist Reviewer for General Mathematics.	 Completed	<ul style="list-style-type: none"> <li>All 2024 Mathematics and Chemistry examinations were vetted by at least two suitably qualified academic study specialist reviewers.</li> </ul>
ii) For the 2025 examinations and beyond, include in each of the Mathematics Examination Development Panels: (a) Two suitable Mathematics academics as question writers for the examination. (b) Two suitable Mathematics academics as Study Specialist Reviewers for each of Mathematical Methods and Specialist Mathematics and one for General Mathematics.	 On track for full implementation	<ul style="list-style-type: none"> <li>The 2025 examination panel criteria and roles were altered to reflect this requirement. Monash University academics are included in all 2025 Mathematics writing panels.</li> <li>Partnerships with Victorian Universities' partnership in development.</li> </ul>
<b>2. The VCAA should strengthen the examination-setting process and construction of the Mathematics examination papers to ensure they are of sufficient rigour and quality, including by:</b>		
a. Requiring that all members of Mathematics Examination Development Panels participate in a training session outlining best practices in the design of Mathematics examination questions, including that they should be constructed using the appropriate symbols, conventions and the 'language of Mathematics'; and that efforts to make questions more accessible to students must not distort their mathematical integrity.	 On track for full implementation	<ul style="list-style-type: none"> <li>2024 Panel chairs were briefed on the Independent Review Panel recommendations, including the need to be best practice and additional academics added to all 2024 panels.</li> <li>All 2024 Mathematics examination questions were reviewed by academics at the Associate Professor or Professor level for language and conventions of mathematics and mathematical integrity. Training requirements for VCE Mathematics panels have been updated to reflect this.</li> <li>Mathematics experts reviewed all current examination terms to ensure the accuracy of mathematics conventions and language, which will be used for training all mathematics panels in 2025.</li> </ul>
b. Simplifying the development of examinations for the 3 Mathematics Study Designs by requiring multiple-choice questions in all examination papers to have only 4 options instead of 5, to bring them into line with the examinations in all other VCE Study Designs and examinations conducted by other comparable Australian jurisdictions.	 Completed	<ul style="list-style-type: none"> <li>Four options for all multiple-choice questions for VCE Mathematics examinations were enacted. Schools advised via Notice to Schools (March 2024).</li> </ul>
<b>3. The VCAA should strengthen the examination review processes for Mathematics and Chemistry, including by:</b>		
a. Strengthening the guidance for the VCAA Examination Development Manager in convening the initial meetings for each of the Mathematics and Chemistry Examination Development Panels to ensure everyone is fully aware of their role and responsibilities in relation to the review and checking of materials and the procedures they need to follow. This should include a reflection on learnings from the prior year's examinations process based on the report from the Chief Assessor.	 On track for full implementation	<ul style="list-style-type: none"> <li>Additional checks of examinations were inserted in the examination development process, including content checks and editorial and desktop publishing,</li> <li>Examination development managers' roles were defined and supported through changes made to the oversight of exam development</li> <li>Enhanced checklists, sign-off sheets and quality assurance processes were initiated during the 2024 development cycle.</li> <li>An enhanced examination development process has been developed and approved for the 2025 examinations.</li> </ul>
b. Introducing an additional Study Specialist Review of the 'print-ready' examination papers for each of Mathematical Methods, Specialist Mathematics and Chemistry by an academic who has not been involved in the development of the examination.	 Completed	<ul style="list-style-type: none"> <li>Academics who had no prior involvement in developing the examinations conducted print proof checks for all mathematics and chemistry examination papers.</li> <li>This review step has been added to the 2025 process.</li> </ul>
c. Requiring that the reports of the Subject Specialist Reviewers, Examination Sitter Reviewers and the English as an Additional Language Reviewer be considered at a joint meeting of the full Examination Development Panel – as well as the relevant VCAA staff – to endorse the final examination paper(s).	 Completed	<ul style="list-style-type: none"> <li>The 2024 examination process for mathematics and chemistry included a full panel meeting for final sign-off that included consideration of comments/ feedback.</li> </ul>
d. Refining the current process as required to ensure that all reviewers – Subject Specialist Reviewers, Examination Sitter Reviewers, and English as an Additional Language Reviewers – receive feedback on how the matters included in their reports were considered and addressed.	 On track for full implementation	<ul style="list-style-type: none"> <li>For 2024, written feedback was provided to all reviewers about their comments and inputs.</li> <li>Meetings with Monash University academics covered all feedback and how it was considered and addressed.</li> </ul>
e. Requiring that wherever possible, once the examination paper has been assembled, meetings of the Examination Development Panels and the review processes occur face-to-face within the VCAA's secure offices.	 On track for full implementation	<ul style="list-style-type: none"> <li>Additional face-to-face meetings for 2024 were conducted for all Mathematics and Chemistry examinations.</li> <li>Face-to-face meetings are embedded as part of the business-as-usual process for all examinations for 2025 onwards.</li> </ul>

## Implementing the recommendations of the Independent Panel Review (continued)

Recommendation	Status	Milestones achieved
f. Improving the records management protocols and practices associated with the reviews of the examinations.	 On track for full implementation	<ul style="list-style-type: none"> <li>Additional review protocols support the tracking of examination preparation have been instituted.</li> <li>Additional executive check and sign-off processes and checklists were implemented for 2024.</li> <li>All papers received an additional quality assurance check from the editor, curriculum manager, and examination development manager, who jointly reviewed the examination before sign-off.</li> </ul>
<b>4. The VCAA should update its training of and guidance to the in-house Editors and Desktop Publishers involved in the Mathematics and Chemistry examinations as follows:</b>		
a. Ensure staff responsible for editing and desktop publishing of Mathematics and Chemistry examinations papers have relevant training in formatting Mathematics and Chemistry questions, including diagrams, graphs, formulae and other stimulus material.	 On track for full implementation	<ul style="list-style-type: none"> <li>Specialist Mathematics and Science editors with subject-specific degree-level qualifications were engaged to edit and proofread the 2024 examinations.</li> <li>VCAA has partnered with mathematics editorial and publishing experts to develop training materials, editorial style guides and artwork briefs for 2025 examinations.</li> </ul>
b. Ensure there is clear guidance for Editors and Desktop Publishers such that, if they believe an amendment is required, it is marked up and submitted for the Panel Chair's approval.	 On track for full implementation	<ul style="list-style-type: none"> <li>Existing procedures and templates were updated for 2024 to clearly document any query or proposed change. Feedback from panel chairs was documented, cross-checked, and confirmed before changes were made.</li> <li>Examination checking steps and change log processes were strengthened for Mathematics and Chemistry.</li> <li>This check and change log process will be reviewed after the examinations to ensure a robust approach for the 2025 examinations.</li> </ul>
c. Ensure that after amendments are made by an Editor or Desktop Publisher a new version of the examination paper is printed and checked by the Panel Chair to see that the amendments have been made correctly and no other flaw introduced.	 On track for full implementation	<ul style="list-style-type: none"> <li>New versions of examinations were printed following any amendment. Panel Chairs checked that amendments were made correctly</li> <li>Improved and documented sign-offs by editors/desktop publishers and panel chairs have been implemented for 2024.</li> </ul>
<b>5. The VCAA should update its guidance for staff at examination centres to reduce the possibility that students could receive the incorrect examination paper, as follows:</b>		
a. Amend the standard script of the instructions given to students before an examination session begins to ensure it includes appropriate checks that the students have been given the correct examination paper.	 Completed	<ul style="list-style-type: none"> <li>Examination announcement scripts were modified and distributed for the 2024 NHT exams.</li> <li>Amended announcement scripts for the 2024 Victorian Academic Timetable exams have been distributed.</li> <li>Improved access logs to support supervisor examination checks have been developed</li> <li>Compulsory training regarding process improvements was delivered to chief supervisors across Victoria.</li> <li>Examination papers include coloured margins to distinguish between similarly named examination papers.</li> </ul>
b. Require an orientation meeting to be held involving the Chief Supervisor, all Supervisors and the VCE Coordinator at each examination centre before the first examination is held.	 Completed	<ul style="list-style-type: none"> <li>This requirement was highlighted in the new chief supervisor/school personnel briefing.</li> <li>Documentation and a checklist have been developed to ensure adherence to this requirement.</li> </ul>
c. Develop training materials and guidance for staff at examination centres covering the key actions needed from the time examination papers are delivered to an examination centre to the conclusion of an examination, and discuss this material at the orientation meeting referred to in Recommendation 5b.	 Completed	<ul style="list-style-type: none"> <li>Mandatory briefing sessions were delivered for all chief supervisors and relevant school personnel, focusing on changes in response to IPR.</li> <li>These sessions were recorded and made available for chief supervisors and relevant school personnel to reference.</li> </ul>
<b>6. The VCAA should publish examination material in a more timely manner and update its policies and processes relating to the management of errors and alleged errors as follows:</b>		
a. i) Publish the VCE Mathematics examination papers within 5 days of a paper being sat.	 On track for full implementation	<ul style="list-style-type: none"> <li>Publication timeline for the 2024 Mathematics examinations is scheduled within 5 days of the paper being sat.</li> </ul>
ii) Publish the final version of the Marking Guide used to assess students' performance within 5 days of the end of the marking of each Mathematics examination.	 On track for full implementation	<ul style="list-style-type: none"> <li>The publication timeline for the 2024 Mathematics Marking Guides is scheduled to be within 5 days of the end of the marking period.</li> </ul>
iii) Publish the report prepared by the Chief Assessor before the end of January.	 On track for full implementation	<ul style="list-style-type: none"> <li>Enhanced templates and briefing documents have been developed to inform the production of external assessment reports.</li> <li>Chief Assessors are aware of the new timeline for external assessment reports.</li> </ul>
b. Panel Chairs required to meet with Chief Assessors/other senior Assessors during the Assessment operation to provide advice and obtain feedback.	 On track for full implementation	<ul style="list-style-type: none"> <li>The panel chair and chief assessors meetings are now established.</li> <li>Training and processes were updated to include the appropriate involvement of panel chairs during the assessment process.</li> </ul>
c. Update VCAA policies, processes, and procedures to include response to an exam issue raised by a member of the community.	 Completed	<ul style="list-style-type: none"> <li>Policies, processes, and procedures have been improved to include responses to exam issues, including a process to investigate the matter to determine appropriate resolution.</li> </ul>
d. Annual training for relevant VCAA staff on documented policies, processes and procedures if an issue is identified in an exam paper.	 On track for full implementation	<ul style="list-style-type: none"> <li>Training modules for relevant VCAA staff have been developed and will be delivered before examinations commencing.</li> </ul>
e. Report to the VCAA Board each year regarding the performance of the annual examination series.	 On track for full implementation	<ul style="list-style-type: none"> <li>Since April 2024, the VCAA Board has been provided with written updates at each meeting regarding examination improvement priorities.</li> <li>A report will be provided to the Board annually following the completion of the annual examination period.</li> </ul>