

# **Broad Directions for the Development of Mathematics K-10 Syllabus Writing Brief/s**

## **1. Introduction**

The data from the strategies undertaken in the Syllabus Review Phase of the Review and Development of Mathematics K-10 Syllabuses project were analysed separately to identify issues that needed to be considered in the review and development of the K-10 Mathematics syllabuses. A set of overall key findings was then synthesised from the data based on six broad headings: Student Learning, Curriculum Framework, Teachers, Parents, Technology, and Assessment and Reporting.

### ***LINK to web copy of REVIEW STRATEGIES AND OVERALL KEY FINDINGS***

From these overall key findings, a set of broad directions for the writing brief/s was compiled. This set of broad directions, which was endorsed by the Board of Studies on March 27, 2001, is set out below.

## **2. Broad directions for the writing brief/s arising out of the review**

- That as an initial task of the writing brief stage, a K-10 Mathematics continuum that includes content (knowledge, skills and understanding) be developed that maps key concept development and enrichment opportunities across the Stages (from Early Stage 1 to Stage 5).
- That within this continuum, the development of key concepts (“big ideas”) be established that explicitly outlines a scope and sequence of content and outcomes (Early Stage 1 to Stage 5). (That the data and background from ‘Count Me In Too’ and ‘Counting On’ as well as other programs be used as key resources to inform the development of the continuum).
- That a principle informing the development of the continuum and writing brief/s be that teachers should have ready access to the content and outcomes across K-10 (Early Stage 1 to Stage 5) in order to support the specific learning needs of individual students.

- That the continuum incorporate and clearly articulate knowledge, skills and understanding considered essential for students in the compulsory years and provide the basis for monitoring the mathematics achievement of students in these years.
- That in the development of the continuum, appropriate standards be set for students to undertake mathematics learning in Stage 6. There should be no lowering of standards K-10.
- That in the development of the continuum, revisiting of content from an earlier Stage be set at a higher conceptual level.
- That, as a principle, the development of content for Mathematics K-10 should enable more in-depth teaching/learning in mathematics.
- That in the revision of the K-6 syllabus, greater emphasis be given to the development of skills and understandings in the areas of rational number, mental computation, number sense and data from the earliest years of schooling.
- That understandings about probability be linked to the use of chance concepts in everyday situations and to the language contexts of learners, as well as the content of other KLAs (where appropriate).
- That as part of mathematics learning K-10, students should develop knowledge and understanding of a range of historical, cultural and social contexts in which mathematics is set. This will include Australian contexts and the mathematical knowledge of Indigenous peoples.
- That assessment tasks that can be used to identify progress and/or achievement in mathematics learning in relation to the standards (from Early Stage 1 to Stage 5) be listed as a component of the syllabus package.
- That the content be organised according to a small number of strands K-8/10 (eg, Number [and Algebra]; Measurement and Data; Space/Geometry), while at the same time ensuring that appropriate connections are drawn across strands. It is recommended that Working Mathematically be integrated into the other strands.
- That in developing the continuum, due consideration be given to the relative status of the strands in terms of the scope of content to be included in each Stage.

- That information about the knowledge, skills and understanding that students bring from prior-to-school settings be articulated to assist teachers in identifying where students are located on the learning continuum on entry to school.
- That advice on the literacy demands of mathematics learning be incorporated into the writing brief/s where appropriate. Such advice should include both conventional language to be used as well as specialised mathematical language that students require.
- That mathematical terminology be applied consistently across K-10 and be based on clear definitions.
- That the numeracy/mathematical demands of other KLAs/subjects be identified and explicit reference be made/linkages be drawn to these K-10.
- That the *appropriate* use of technology (calculators, computers, etc) and capabilities be systematically included across K-10 Mathematics.
- That the development of the syllabus package for teachers ensure that the “user-friendly” characteristics of the current documents are retained.
- That a small set of values and attitudes outcomes be developed for K-10, emphasising an appreciation of mathematics and the development of positive attitudes towards mathematics learning.
- That the writing brief/s should briefly describe the extent, nature and scheduled release dates of support material to be developed for each syllabus document. This material should include: Stage statements; indicators; annotated student work samples and associated assessment tasks; and other support materials for teachers, parents and principals (in the case of primary schools).