



A Curriculum Comparison of Years 9–10 Measurement and Geometry in Australia and Singapore

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South Australia's PISA mathematics performance has been in constant decline with the proportion of participants meeting the national proficient standard dropping from 73% in 2003 to 50% in 2018 (Thomson et al., 2019). In contrast, Singapore is a consistently strong performer. To better understand student readiness in answering PISA questions, this paper reports a curriculum comparison of the Australian Curriculum: Mathematics (AC:M) Years 9 and 10 Measurement and Geometry strand, and the Singaporean Express course for both O-Level Mathematics and O-Level Additional Mathematics (SC:M).

The study employs a similar approach to the analysis undertaken by Australian Curriculum, Assessment and Reporting Authority (Australian Curriculum, Assessment and Reporting Authority [ACARA], 2018). To identify topics for inclusion in this study, content analysis was conducted on content descriptions and elaborations for AC:M, and content descriptions and learning experiences for SC:M, resulting in 52 topics.

The findings indicate there is a clear difference in the Measurement and Geometry strand of both national curricula. There are more topics 'not present' (44%) in AC:M Years 9–10A compared to topics that are 'common' in both curricula (19%). Topics that appear prior to Secondary 3/4 in Singapore account for 21% of the total number of topics, and the remaining proportion is topics that appear in a different strand in the comparable years.

Therefore, these findings imply that students in Years 9 and 10 in South Australia have less coverage of Measurement and Geometry content compared with Singapore's students. A similar observation was reported by ACARA (2018). This may mean that students in Singapore are better prepared for solving PISA assessment items. The intended mathematics curriculum is one factor of many, such as previous experiences and capacity in problem-solving that contribute to students' preparedness to achieve the national proficient standard in PISA mathematics. Nonetheless, the intended curriculum of each country is a useful unit of measure to provide insight into the differences in the content coverage in the Australian and Singaporean curricula in Measurement and Geometry.

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