



The Australian mathematics curriculum as a stimulus to better teaching and learning of mathematics

Peter Sullivan
Monash University



What might be richness?

- Assuming the opposite of richness is poverty
- A “poor” curriculum would
 - Have lots of disconnected ideas
 - Address only a narrow set of overall objectives
 - Would use content for selection purposes for rather than for purposeful education now





What might be creativity?

- Assuming the opposite is “technical reproduction”
- A “technical reproduction” curriculum would
 - Have students doing the same thing over and over
 - Be confusing for teachers to follow
 - Prioritise skill development over ideas, reasoning, connections,





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Rich, Creative, Coherent

What might be coherence?

- Assuming the opposite is “incoherence”
- An “incoherent” curriculum would
 - Be confusing for teachers to follow, with unfamiliar language and key themes difficult to identify
 - Be disconnected from students’ experience
 - Fail to identify the “big ideas”

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Some guiding principles

Rich, Creative, Coherent

- mathematics success creates opportunities and all should have access to those opportunities
 - inclusive for all to end of year 9 (and compulsory in year 10)
- the curriculum should be clear and succinct, and this is about pedagogy
- currently teachers feel they have to rush from one topic to the next, and this is bad for teaching
- all students can be challenged within basic topics, including the advanced students



Three content strands (nouns)

Rich, Creative, Coherent

- Number and algebra
- Measurement and geometry
- Statistics and probability



Expectations for proficiency (verbs)

- Understanding
- Fluency
- Problem solving
- Reasoning



Key issues for implementation

- How is richness achieved?
 - Civilising and refining
 - Inclusive
 - Verbs describing actions on the nouns



How is creativity fostered?

- Mathematics is creative
 - Although it does need to be taught in particular ways
- Teacher decision making
 - “capacity building”
- Extending the best



How is coherence communicated?

- Clarity
- Succinctness
- Building connections
 - “multiplicative”