

SUPPORTING CHANGE THROUGH AN IN-SERVICE COURSE:

Activities to Promote Thinking in the Mathematics Classroom

Berinderjeet Kaur

National Institute of Education, Singapore.

The primary aim of the mathematics curriculum in Singapore schools is to enable pupils to develop their ability in mathematical problem solving. The conceptualisation of the mathematics syllabuses is based on a framework that emphasises the interplay of five components – *Concepts, Skills, Processes, Attitudes and Metacognition* to achieve this aim (MOE, 2000). Prior to the year 2000, *Processes* in the framework referred to *Deductive reasoning, Inductive reasoning and Heuristics* (MOE, 1990).

In 1997, responding to the Prime Minister's launch of the THINKING SCHOOLS, LEARNING NATION vision (Goh, 1997), the Ministry of Education initiated changes to curricular subjects to implement the Thinking Programme in schools (MOE, 1998). A revision of the Mathematics syllabuses in 1998 saw a significant change to the component *Processes* in the framework. It now referred to Thinking Skills and Heuristics. At the secondary level, the list of *Thinking Skills* suggested include: Classifying, Comparing, Identifying Attributes & Components, Sequencing, Induction, Deduction, Generalising, Verifying and Spatial Visualisation. However, there was no change to the list of *Heuristics*.

To support this change a 30 hour in-service course: *Activities to Promote Thinking in the Mathematics Classroom* is conducted by the author twice a year for secondary school mathematics teachers. Participants come together once a week for 3 hours to design mathematical tasks that infuse thinking skills and also to share their experiences about tasks they have attempted to use in their classrooms.

The poster presents the outline of the course, tasks designed by the teachers' and findings of a questionnaire administered to the teachers at the beginning and end of the course.

Goh, C. T. (1997). Shaping our future: "Thinking Schools" and a "Learning Nation". Speeches, 21(3): 12-20. Singapore: Ministry of Information and the Arts.

Ministry of Education (MOE). 1990. Mathematics syllabus – Lower secondary. Singapore: Ministry of Education, Curriculum Planning Division.

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