



# Professional Development for Teachers in Singapore Math

Research has shown a connection between the approach to professional development and the improvement in outcomes for schools. It doesn't matter what school a child goes to, but it does matter what classroom they are in. The most critical difference is the quality of the teacher (Sanders and Rivers, 1996)

Here in Ammiel Wan Academy, our aim is to improve the competencies of the teachers so that they can in turn become more effective in the classrooms.

We specialise in the following areas:

- Provide training to teachers in the spiral development of the Math syllabus by topics.
- Designing learning experiences to develop math concepts.
- Understand Math concepts and how they align with the Math syllabus.
- Work with teachers to design a school based curriculum that develops conceptual understanding.

*"The quality of the teaching system cannot exceed the quality of its teachers."*

*McKinsey & Company 2007.*

## LEVEL 1-SERIES

Level 1-series are **topic specific** and targeted at helping participants teach key topics effectively in a spiral approach. Participants will be taught how to design hands on experiences to bring across key fundamental concepts to students. As opposed to rote learning, these learning experiences will help pupils to develop a deeper understanding of these topics which is crucial for future problem solving.

Common topics that school leaders and HODs have chosen for the last 20 years include whole numbers, fractions, percentage and mensuration.



## LEVEL 2-SERIES

Level 2-series focus on **concepts or heuristics** and focus at helping participants teach concepts surrounding non routine problems. Participants will be shown how to develop conceptual understanding and create thinking platforms to enhance the learning of these concepts. Since its inception in 1999, the Conceptual Approach has taken the nation by storm, covering almost 90% of Singapore schools, in different forms and levels. In all the following courses, the trainer will demonstrate how the concepts are linked to actual PSLE questions in the last decade.

### **T201 Model Drawing In A Spiral Approach**

This course focuses on helping participants teach model drawing across P2 to P6. They will also be taught how to make use of parallel questioning to raise the level of thinking in the classrooms. In addition, they will also learn how to create meaningful learning experiences to scaffold the process of model drawing.

### **T202 Teaching and understanding of Level 1 Concepts**

This introductory course will give teachers an insight into how the approach was first created in 1999 before it is being used by majority of schools today. The trainer will first bring the participants through the theories to help them understand the approach from a different perspective. They will also learn in depth all the Level 1 concepts including remainder concepts, equal fractions, and the 4 transfer concepts and how to design resources that surrounds these concepts.

### **T203 Teaching and understanding of Level 2 Concepts**

This is a follow up to the introductory course (T202) for teachers are very familiar with level 1 concepts. In this course, teachers will learn about the tougher level 2 concepts involving challenging problems that cut across different topics. This will help teachers to create meaningful resources to help pupils transfer their learning into more complex problems. Such concepts include gap and differences (whole numbers), gap and differences (speed), units and parts, number x value, markings and gaps, measurement (2D vs 3D), factors, multiples and rearrangements.

### **T204 Designing a School-Based Curriculum (By level)**

Unlike other workshops, this is a programme that aims to help teachers design their own school-based curriculum. With the CPDD framework at the background and the PSLE in mind, the aim is to customise a package that connects with they have learnt in their TB and WB and create an effective bridge to help them develop the necessary skills for problem solving.

Pre-requisite: Teachers should already be familiar with the various concepts found in level 1 and 2 series.

This programme can be tailored to involve a minimum of 2 classes within the same level, the entire level, or the whole school.

## **Ammiel Wan (TRAINER)**


Mr Ammiel Wan is the creator of the Conceptual Approach to problem solving. He has been training teachers since 2003 and helped many schools to customise their curriculum to improve pupils' Math concepts. His other strategies, including Parallel Questioning and Read Write strategy have not only transformed the way Mathematics is taught, but also the way pupils learn and make sense out of problem-solving. Besides the significant increase in distinctions across many schools, teachers and HODs have recognised the role conceptual knowledge plays in problem solving.

Known as a very engaging speaker, he has conducted more than 100 workshops to-date for teachers and parents. He has published numerous research papers and presented in several International conferences, such as the 14th International Conference on Thinking (ICOT) on the topic of 'Thinking' and 'Problem Solving'.

During his 15 years in MOE, he has taught many pupils ranging from the Gifted Programme to pupils in the mainstream. He was the HOD Mathematics (Catholic High School), Dean of Curriculum studies (Catholic High School) and the Vice-Principal (Rosyth School) during his 15 years with MOE. He has led the revamp of many schools' Mathematics curriculum (CHS, Northland Primary, SJI Jr etc) as a Mathematics consultant and specialist. He left MOE to join VisibleMATH Academy where he wrote the curriculum from P1 to Secondary 4. Today he is the Principal of Ammiel Wan Academy, a MOE-registered Specialist Math school that runs specialised programmes for the GEP, PSLE, O level, IP/IB and JC H2 pupils.

During his time in MOE, he received numerous awards such as the 'Fellow of the Academy of Singapore Teachers' and the MOE Postgraduate Overseas Scholarship. He has created and authored more than 50 resource books pertaining to his conceptual approach and sold more than a million copies. He was also featured in the Straits Times in 2009 and 2013 for his innovative and effective approach of teaching problem sums to teachers and pupils.





If you need training for your teachers or to customise your curriculum to develop their concepts, feel free to contact us through the following:

Email: [admin@ammielwan.com.sg](mailto:admin@ammielwan.com.sg)

Tel: 6456 7212

Whatsapp: 88215099

Company UEN: 202137681C

GST Registration No.: 202137681C