

Chapter 1

Introduction

I. Revision of the Curriculum

The existing curriculum was adopted in 1983 and has been used for more than 10 years. It was revised in 1995 when the Target Oriented Curriculum (TOC) was implemented. The revised curriculum not only aims at providing pupils with basic mathematical knowledge and skills, but also emphasizes the process of learning in order to develop pupils' abilities in inquiring, communicating, reasoning, conceptualizing and problem solving. Through the learning of mathematics, pupils' abilities in thinking and interpersonal communication can be enhanced and the skills for lifelong learning can be acquired.

Due to the changes in society and the drastic development in technology, some of the objectives in the current curriculum can no longer meet the demands of the basic education and the needs of recent societal development. Teachers also find that, from their experience, pupils need more time to flexibly apply knowledge and skills to discussion and exploration. In view of the above, the former Curriculum Development Council Mathematics Subject Committee (Primary) suggested to revise the curriculum.

This curriculum guide lists the learning targets and objectives for every learning dimension, teaching strategies and assessment suggestions. An *Addenda Series for Primary Mathematics* is also developed for teachers' reference. Teachers can select and make use of any relevant information to design appropriate school based teaching materials and activities. The Addenda Series will be continuously updated and enriched to achieve the aims of mathematics teaching and meet the needs and development of the society and pupils.

II. Approach for the Curriculum Design

Based on the Primary Mathematics Syllabus (1983) and the TOC Programme of Study for Mathematics (1995), the curriculum has been revised in line with the recent changes

in society and the development of technology. New topics, such as the ‘Acquaintance with Modern Calculating Devices’, have been included in the curriculum. In response to the goals of basic education, topics including basic mathematical knowledge and skills that pupils must acquire are selected. Pupils’ abilities to learn and master such knowledge and skills are considered during the selection process.

The aims and objectives, the structure and content of the primary mathematics curriculum have been developed according to the following principles:

1. Developing Pupils’ Learning Attitudes and Skills

The curriculum does not only aim at achieving the goals in learning mathematical knowledge and skills, but also emphasizes on the developing of pupils’ positive learning attitudes, such as being serious in doing mathematics, being careful and having an exploring mind. Apart from that, pupils are required to cultivate good learning habits like careful calculating, clear describing, independent thinking and self-checking.

As calculators and computers are popular, training of computational skills in tedious calculation is no longer necessary. Instead, pupils must acquire and master certain basic mathematical knowledge and skills. Therefore, complicated calculations and calculations involving large numbers are no longer encouraged in this curriculum, while training in mental calculations, numerical estimation and estimation in measurement are further emphasized. In addition, the use of new technology is employed for consolidation, exploration and problem solving.

It is also hoped that through real life examples, observation, measurement, drawing, construction and discussion, the curriculum can assist pupils to master basic concepts, knowledge, principles and formulae in mathematics. Through activities, pupils are guided to learn how to compare, induce and analyze so that they are able to make judgment and reasoning, and to develop their abilities in thinking, problem solving and lifelong learning.

2. Relevance to Pupils

The curriculum emphasizes on the linkage of topics in the mathematics curriculum and

pupils' experiences through activities and real life examples. It aims at enabling pupils to apply mathematical knowledge in daily life and enhancing their interest in studying mathematics. Historical stories about the advancement of mathematical knowledge are also included to let pupils understand that mathematical knowledge originates from problems in daily life and is developed through years of study.

A spiral approach is adopted in the curriculum. It enables pupils to construct new knowledge on the basis of acquired knowledge and experiences. Pupils are guided to link relevant knowledge which can help them understand new concepts and skills. This hence lay a foundation for pupils to study mathematics in secondary schools.

3. Catering for Learner Differences

In response to the goals of basic education, differences in pupils' abilities and disposition had been taken into consideration, hoping that it can help more pupils make achievements in mathematical study. In view of this, the new curriculum allows teachers rooms for flexible treatment of the curriculum. According to the needs of schools and pupils, and in line with the teaching methods followed, teachers can plan their teaching schedule based on a school term, a school year or a Key Stage.

A pupil-oriented approach has been adopted in designing the curriculum. Since the cognitive development, learning abilities, interest and background of pupils are different, teachers can arrange the topics using different approaches and select appropriate enrichment topics to meet the needs of pupils. Meanwhile, spare periods have been reserved at each level for teachers to design the teaching materials and the breadth and depth of treatment according to the actual situation and the strengths and weaknesses of pupils. In this way, teachers can provide opportunities for pupils to fully utilize their strengths to achieve the standards at the end of Key Stages 1 & 2.

4. The Arrangement of the Learning Objectives

To ensure that pupils can learn mathematics purposefully and effectively, learning objectives and targets are organized progressively across Key Stage 1 (P.1 – P.3) and Key Stage 2 (P.4 – P.6).