

**MINISTRY OF EDUCATION, YOUTH
AND CULTURE**

**MATHEMATICS
AND
NUMERACY POLICY**

APPENDIX II

**THE *SMP* THREE-PART
LESSON**

The *SMP* 3-part lesson

The *SMP* 3-part lesson is not intended to remove the dynamism of the mathematics classroom. Indeed, what takes place at each stage of a lesson is often dependent on several factors including the characteristics of the learners – the stage they are at, their abilities etc., the content to be taught, the objectives for the lesson and the particular persuasions of the teacher. Furthermore, there are a number of professional choices which the teacher will often have to make before a lesson, as well as during the lesson which may change the course of original plans. However, as stated in the Policy, the *SMP* lesson format provides teachers with a simple, yet effective structure for planning lessons and enabling mathematical development.

❖ The starter

The starter refers to the opening of the lesson. It is an obvious “beginning point” and must be clearly identifiable. (5 – 10 minutes).

There are a range of activities which could be used as starters. A starter could be:

- A mental activity;
- An oral exercise;
- A short game to introduce or review an idea, process or skill;
- A whole class interactive discussion intended to act as an advance organizer for the main teaching/learning activity.

Mathematics Departments are expected to work together in order to develop tasks and activities which may be used as starters. Important questions to be considered are:

- What role will the starter play?
- Where is the mathematics going?
- What purpose does the starter serve in the pupils’ learning of mathematics?

❖ **The main teaching activity. (25 – 40 minutes)**

This activity may be one which:

- Builds on the starter;
- Involves pupils in investigating and exploring individually or in groups;
- Includes pupil-led discussions and presentations;
- Involves direct teaching – involving a mix of questioning, discussing, consolidating, or demonstrating, the use of technology, or any other type of strategy which aims at provoking thinking, promoting understanding and facilitating reflection by the pupils;
- A combination of all the above.

Some important questions to consider when planning the main teaching activity are:

- What main concept, idea, skill or process must the children have learnt at the end of the lesson?
- What is the most effective means of enabling understanding?
- Are there opportunities for pupils to communicate their ideas?
- How will the range of abilities in the class to be catered for?

A Closing Plenary (5-15 minutes)

The Plenary could include:

- Students and teachers summarizing key facts or ideas in the lesson (Teachers should not simply “tell” the students the key ideas etc, but should engage students in discussions which allows them (the students) to have opportunities to say what they have learnt them);
- A strategy game or pupils challenging each other to answer questions
- Setting homework (which should not be the only activity in the Plenary unless the summary has been done)

- Discussion of written exercises or other tasks completed in the lesson (pupil-led or teacher-led as appropriate)
- Setting the scene for the next lesson
- A mixture of the above.

The most important question to consider when planning the Plenary is:

- What is the purpose of the Plenary for this lesson?

The Closing Plenary is a vital element in the lesson. It is here that students should be enabled to focus on the lessons important elements and be given the opportunity to reflect on their learning. This part of the lesson is also an opportunity to round off the lesson and focus on what was important, and could also be used to engage students in discussions about how the mathematics they were doing could be used in other subjects or in other contexts.

A NOTE ON MENTAL ACTIVITIES

There is much research evidence which supports the use of mental activities in the classroom. In fact, Anghileri (2000) reports on research findings which indicate that a rise in self-esteem was seen amongst a number of children whose teacher encouraged mental strategies in the mathematics classroom.

However, mental activity must not be confined to mental calculations, nor should it focus solely on recall. Teachers must attempt to use mental imagery also as they attempt to develop children's mental skills. This is a powerful tool in the mathematics classroom and has the potential to facilitate and generate mathematical thinking. The following

example demonstrates how mental strategies which incorporate mental imagery can move beyond the mundane and provide an avenue for rich mathematical discourse:

Imagine a wooden cube. Imagine suspending it by a piece of string attached at one vertex. Lower it onto a bed of damp sand so that a vertex just touches the surface and then push the cube down so that the vertex makes a hole in the sand. Remove the cube and look at the hole. What shape is it? (Bills, 2002)