

## MPRI101 Pedagogy and Assessment of Primary Mathematics

ECTS Value: 2 ECTS  
Self-Study Hours: 25

Contact Hours: 10  
Assessment Hours: 15

### Overall Objectives and Outcomes

Mathematics is a Core Learning Area. In this Module, participants will explore issues related to the pedagogy and assessment of mathematics within the primary classroom setting. They will evaluate different teaching strategies and apply their newly acquired skills and knowledge to develop well-structured, detailed and appropriate schemes of work and lesson plans which are aligned to the primary mathematics syllabus. This Module will also aim at increasing teachers' confidence in the teaching of mathematics in the primary classroom as lack of confidence may impact learning. It will also equip participants with the skills and competences necessary to differentiate content, process and product in their classrooms, produce effective teaching and learning resources and make use of technology to enhance learning.

By the end of this module, the learner will be able to:

#### Competences:

- a) Produce schemes of work and lesson plans that are aligned to the Primary Mathematics Syllabus;
- b) Ensure that problem solving is at the heart of their lessons;
- c) Design and implement mathematics activities in their classrooms which are based on the appropriate pedagogical theories;
- d) Monitor how key mathematical terms and symbols will be emphasised on during their lessons;
- e) Reflect about the development of their lessons through self-evaluation;
- f) Execute strategies to differentiate between different types of learners in their classroom, e.g. auditory, visual and also advanced learners and learners with Mathematics Learning Difficulties;
- g) Create resources for the use on the Interactive Whiteboard or on a computer;
- h) Produce strategies to formatively and summatively assess their pupils' grasp of mathematical knowledge, concepts, skills and competences.

#### Knowledge:

- a) Define appropriate ways of setting up a mathematics scheme of work and a lesson plan for the primary classes;
- b) List suitable strategies for teaching the main components of mathematics, namely, Number and Algebra, Geometry, Data Handling and Measure;
- c) Describe ways of emphasising Mental work;
- d) List different resources that may be used to teach mathematics more effectively such as Base Ten Blocks and Cuisenaire Rods;
- e) Define what a mathematics register is;
- f) Describe how key mathematics language should be emphasised upon;
- g) Identify appropriate assessment strategies which assess for mathematical skills, knowledge and competences;

h) Define the importance of the affective domain in the learning of mathematics and the impact mathematics anxiety may have on learning;

Skills:

- a) Prepare schemes of work and lesson plans which are mapped to the Primary Mathematics Syllabus;
- b) Design problem tasks which support analytical higher order thinking and reasoning skills;
- c) Create teaching/learning resources in relation to the different lessons developed;
- d) Demonstrate an understanding of the importance of the affective domain in mathematics learning;
- e) Prepare a plan for focusing on key mathematical language in their lessons;
- f) Plan different activities for various areas of mathematics learning including number and algebra, geometry, data handling and measures;
- g) Plan different forms of assessment for the different areas of mathematics learning.

## Assessment Methods

This module will be assessed through: Portfolio/Journal

## Suggested Readings

Core Reading List:

- 1) Haylock, D., & Cockburn, A. (2013). *Understanding mathematics for young children (4<sup>th</sup> Edn.)*. London: Sage.
- 2) Haylock, D. (2010). *Mathematics explained for primary teachers (4<sup>th</sup> Edn.)*. Los Angeles: SAGE.
- 3) Haylock, D., & Thangata, F. (2007). *Key concepts in teaching primary mathematics*. London: Sage.
- 4) Van De Walle, J. A., Karp, K. S. & Bay-Williams, J. M. (2013). *Elementary and middle school mathematics (8<sup>th</sup> Edn.)*. Boston: Pearson Education.