

BPRI108 Mathematics for the Primary Classroom

ECTS Value: 8 ECTS

Overall Objectives and Outcomes

This module focuses on the content to be covered during Mathematics lessons in primary schools in Years 1 to 6. Apart from giving participants the opportunity to become familiar with the content of the Mathematics syllabus and the Learning Outcomes Framework Levels 4 to 6, this module will also help participants understand the sequence and the core elements of the syllabus content, how the content relates to the children's day to day reality and how the development of mathematics learning can be used to provide a holistic childhood development. The module will also engage participants in creative approaches to the four Mathematics strands outlined in the syllabus – number measurement, space and shapes and data handling and how these strands can interlink for a more applied, all-inclusive and efficient Mathematical teaching and learning process within our schools.

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

Competences

- a. extend syllabus-bound activities and textbook-based activities to real life mathematical application so as to generate a more holistic childhood development;
- b. formulate a weekly scheme of work (covering one week) which includes the inter-linking of different topics, and later self-reflect on this task;
- c. support students in the classroom by linking what has been done in previous years to what will be covered in future years, hence serving as a medium between year groups and learning outcomes, according to the content and outcomes of the framework;
- d. enhance the understanding of common Mathematics difficulties and misunderstandings by solidifying one's own perception and relationship to the subject content.

Knowledge

- a. develop an understanding of the history of mathematics education;
- b. explain theories related to how humans develop an understanding of specific topic in the topics taught such as Van Hiele's model for shapes and use this knowledge as background when creating activities;
- c. communicate various arguments that show that Mathematics education must be a crucial part of the primary education curriculum;
- d. reference the different learning outcomes as well as the key vocabulary related to mathematics;
- e. develop a knowledge of numerous learning opportunities that have been outlined in the syllabus;
- f. develop an understanding of how various mathematical topics can be interrelated;
- g. identify the content which educators are encouraged to cover through the maths learning outcomes framework.

Skills

- a. devise attractive, student-centred lessons and classroom activities which are inter-linked and meaningful to the learners' realities;
- b. create anchor tasks that are related to the different topics in the syllabus and can be used to introduce a lesson as a strategy for engaging the learners;
- c. broaden the learners' basic numeracy skills to a deeper understanding of mathematical concepts, principles and applications.
- d. prepare mathematical lessons number and place value, addition and subtraction, multiplication and division, fractions, decimals, percentages and proportion, mass, capacity, length, perimeter and area, time, money, shapes and symmetry, position, direction and angles as well as tables, graphs and averages.
- e. prepare activities which comprise a range of tasks and problems and entail the application of a number of mathematical ideas.
- f. evaluate and select useful multisensory resources for each of the topics dealt with which will help them to ensure that a Concrete Pictorial Approach is always maintained;
- g. evaluate and choose a bank of activities that may be used as part of a continuous assessment approach for each of the topics covered.

Assessment Methods

This module will be assessed through: Practical Assignment(s)

Suggested Readings

Core Reading List:

1. Primary Maths Support Team. (2014). Mathematics - a revised Syllabus for Primary Schools. Malta: Department of Curriculum Management, Ministry of Education and Employment.
2. Pepperell, S. (2014). Mathematics in the Primary School. Routledge.
3. Haylock, D., & Cockburn, A. (2013). Understanding mathematics for young children (4th Edn.). London: Sage.

Supplementary Reading List:

1. Koshy, V., Casey, R. and Ernest, P. (2014). Mathematics For Primary Teachers. Hoboken: Taylor and Francis.
2. Davis, A., Goulding, M. and Suggate, J. (2017). Mathematical Knowledge for Primary Teachers. Florence: Taylor and Francis.
3. Tiley-Nunn, N. and Beadle, P. (2014). Primary Maths. Carmarthen, United Kingdom: Independent Thinking Press.
4. Rowland, T. (2009). Developing Primary Mathematics Teaching. Los Angeles: SAGE.